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As part of the 50th birthday celebration, we are arranging to reprint 12 papers, *the editor's choice*, which have appeared in previous issues of the *Journal*. They have been chosen partly to illustrate the range and scope of the *Journal* over the years and partly because they are or were important in their day. More significantly, they have been chosen because they exemplify some of the best in scientific writing and can all be read with great pleasure and all who wish to communicate their observations, their ideas, or their enthusiasms would do well to study them and learn from them.

We will publish one paper each month through the year and they will appear in the order in which they were originally published.

Editor's Choice

Chronic carbon tetrachloride poisoning

by Alice Stewart and L J Witts

(*British Journal of Industrial Medicine* 1944;1:11–9)

I have chosen this paper largely because of my admiration for Alice Stewart with whom I worked for a while at the University of Birmingham after she had retired from Oxford. Retirement was a purely relative term so far as Alice was concerned and she continued to work at a pace and with a zeal which left many of us amazed and exhausted. She was then working on the effects of low level radiation on workers at a nuclear submarine base but she will probably be best remembered for establishing the relation between in utero radiation and childhood leukaemia.

The study that we reprint here was undertaken in war time when "more attention had been paid to the strength of the walls and the completeness of the blackout than to the state of the atmosphere." Despite massive exposures to carbon tetrachloride it is interesting to note that the workers appeared in good health despite the severity and duration of their symptoms. Stewart and Witts describe a good many of the symptoms, which were rediscovered two or three decades later when they were referred to as the "solvent syndrome"; these include loss of mental agility, inertia, memory deficits, depression, irritability, excessive fatiguability, and drowsiness. Another striking observation—and one which might have been heeded by later investigators—was "the speed with which symptoms disappeared when workers were removed from the plant."

Another point of interest was the appearance in the workforce of an antipathy to any smell that reminded them of the chemical works. The workers developed a sensitivity to carbon tetrachloride, so much so that a plant chemist (who later became an important figure in occupational medicine in his own right) stated that "I have now developed a conditioned reflex and the thought of setting about a job which involves handling the stuff is enough to make me vomit." This kind of response, and particularly the cross-sensitivity to other pungent or acid smells is commonly seen in individuals who have real or perceived high exposure to solvents and other odorific chemicals. But that is a topic for another occasion.

22 Roels HA, Lauwerys RR, Bernard AM, Buchet JP, Vos A, Oversteyns M. Assessment of the filtration reserve capacity of the kidney in workers exposed to cadmium. *Br J Ind Med* 1991;**48**:365–74.
23 Bernard AM, Ouled Amor A, Lauwerys RR. Decrease of erythrocyte and glomerular membrane negative charges in chronic cadmium poisoning. *Br J Ind Med* 1988;**45**:112–5.
24 Cárdenas A, Bernard AM, Lauwerys R. Disturbance of sialic acid metabolism by chronic cadmium exposure and its relation to proteinuria. *Toxicol Appl Pharmacol* 1991;**108**:547–58.
25 Roels H, Djubgang J, Buchet JP, Bernard A, Lauwerys R. Evolution of cadmium-induced renal dysfunction in workers removed from exposure. *Scand J Work Environ Health* 1982;**8**:191–200.
26 Suzuki Y, Morita I, Ishizaki Y, Yamane Y, Murota S. Cadmium stimulates prostaglandin E_2 synthesis in osteoblast-like cells, MC3T3-E1. *Biochim Biophys Acta* 1989;**1012**:135–9.
27 Staessen J, Amery A, Bernard A, *et al*. Effects of exposure to cadmium on calcium metabolism: a population study. *Br J Ind Med* 1991;**48**:710–4.

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Vancouver style

All manuscripts submitted to the *Br J Ind Med* should conform to the uniform requirements for manuscripts submitted to biomedical journals (known as the Vancouver style).

The *Br J Ind Med*, together with many other international biomedical journals, has agreed to accept articles prepared in accordance with the Vancouver style. The style (described in full in *Br Med J*, 24 February 1979, p 532) is intended to standardise requirements for authors.

References should be numbered consecutively in the order in which they are first mentioned in the text by Arabic numerals above the line on each occasion the reference is cited (Manson[1] confirmed other reports[2–5]...). In future references to papers submitted to the *Br J Ind Med* should include: the names of all authors if there are six or less or, if there are more, the first three followed by *et al*; the title of journal articles or book chapters; the titles of journals abbreviated according to the style of *Index Medicus*; and the first and final page numbers of the article or chapter.

Examples of common forms of references are:

1 International Steering Committee of Medical Editors. Uniform requirements for manuscripts submitted to biomedical journals. *Br Med J* 1979;1:532–5.
2 Soter NA, Wasserman SI, Austen KF. Cold urticaria: release into the circulation of histamine and eosino-phil chemotactic factor of anaphylaxis during cold challenge. *N Engl J Med* 1976;**294**:687–90.
3 Weinstein L, Swartz MN. Pathogenic properties of invading micro-organisms. In: Sodeman WA Jr, Sodeman WA, eds. *Pathologic physiology: mechanisms of disease*. Philadelphia: W B Saunders, 1974:457–72.

6 Stoeppler M, Brandt K. Contributions to automated trace analysis. Part II. Rapid method for the automated determination of lead in whole blood by electrothermal atomic absorption spectrometry. *Analyst* 1978;**103**:714–22.
7 Berlin A, Schaller KH. European standardized method for the determination of δ-aminolevulinic acid dehydratase activity in blood. *J Clin Chem Clin Biochem* 1974;**12**:389–90.
8 Kajitani M, Kondoh M, Niwa M, Suzuki T, Kimura H, Sasaki A, Urata G. Increase of δ-aminolevulinic acid dehydratase (ALAD) in rat erythrocytes in lead poisoning. *Arch Toxicol* 1983;**52**:1–11.
9 Sakai T, Takeuchi Y, Araki T, Ushio K. Determination of erythrocyte porphyrins by reversed-phase high-performance liquid chromatography using capsule-type silica gels coated with silicone polymer. *J Chromatogr* 1988;**433**:73–9.
10 American Conference of Governmental and Industrial Hygienists. *Threshold limit values and biological exposure indices for 1990–1991*. Cincinnati, Ohio: ACGIH, 1990:51–66.
11 Weiss NS. *Clinical epidemiology: the study of the outcome of illness*. New York: Oxford University Press, 1986.
12 Youden WJ. Index for rating diagnostic test. *Cancer* 1950;**3**: 32–5.
13 World Health Organisation. *Environmental health criteria 3: lead*. Geneva: WHO, 1977.
14 Okayama A, Ogawa Y, Miyajima K, Hirata M, Yoshida T, Tabuchi T, Sugimoto K, Morimoto K. A new HPLC fluorimetric method to monitor urinary delta-aminolevulinic acid (ALA-U) levels in workers exposed to lead. *Int Arch Occup Environ Health* 1989;**61**:297–302.
15 Zielhuis RL. Dose-response relationships for inorganic lead. 1. Biochemical and haematological responses. *Int Arch Occup Health* 1975;**35**:1–18.
16 Miura H, Harada K, Ohmori S. Effects of lead on porphyrin-heme metabolism. *Kagaku no ryoiki* 1980;suppl **126**:99–109. (In Japanese.)
17 Omae K, Sakurai H, Higashi T, Hosoda K, Teruya K, Suzuki Y. Reevaluation of urinary excretion of coproporphyrins in lead-exposed workers. *Int Arch Occup Environ Health* 1988;**60**: 107–10.

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Correspondence and editorials

The *British Journal of Industrial Medicine* welcomes correspondence relating to any of the material appearing in the journal. Results from preliminary or small scale studies may also be published in the correspondence column if this seems appropriate. Letters should be not more than 500 words in length and contain a minimum of references. Table and figures should be kept to an absolute minimum. Letters are accepted on the understanding that they may be subject to editorial revision and shortening.

The journal now also publishes editorials which are normally specially commissioned. The Editor welcomes suggestions regarding suitable topics; those wishing to submit an editorial, however, should do so only after discussion with the Editor.

82 Boffetta P, Stellman S, Garfinkel L. Diesel exhaust exposure and mortality among males in the American Cancer Society prospective study. *Am J Ind Med* 1988;**14**:403–15.
83 Wallace LA. Major sources of benzene exposure. *Environ Health Perspect* 1989;**82**:165–9.
84 Dubrow R, Wegman DH. Setting priorities for occupational cancer research and control: Synthesis of the results of occupational disease surveillance studies. *J Natl Cancer Inst* 1983;**71**:1123–42.
85 Franceschi S, Serraino D, Carbone A, Talamini R, La Vecchia C. Dietary factors and non-Hodgkin's lymphoma: a case-control study in the northeastern part of Italy. *Nutr Cancer* 1989;**12**:333–41.
86 Olin GR, Ahlbom A. The cancer mortality among Swedish chemists graduated during three decades. *Environ Res* 1980; **22**:154–61.
87 Wong O, Raabe GK. Critical review of cancer epidemiology in petroleum industry employees with a quantitative meta-analysis by cancer site. *Am J Ind Med* 1989;**15**:283–310.
88 Malker HSR. Register-epidemiology in the identification of cancer risks. *Arberte Och Halsa* 1988;**21**:7–50.
89 McLaughlin JK, Malker HSR, Malker BK, *et al*. Registry-based analysis of occupational risks for primary liver cancer in Sweden. *Cancer Res* 1987;**47**:287–91.

Accepted 30 March 1992

CORRESPONDENCE

Asbestos and cancer: history and public policy

Sir,—In his support for Murray's version of the history of the awareness of the human health hazards of exposure to asbestos, Kelso (1992;**49**:526) puts down Weller (1992;**49**:70–2) for his "emotional outbursts", "bland statements", and "employment of old worn out cliches" (sic), and accuses him of being selective in his references.

Lee and Selikoff are presented as highly respected researchers when Kelso quotes extensively from them in support of his piece of polemic. (Old hands will appreciate the irony of seeing Selikoff, demonised as an irresponsible demagogue in his lifetime when he impartially goaded the responsible bodies into urgent action on asbestos, being lauded posthumously by a representative of the industry.) As Selikoff cannot answer for himself, I would offer in his defence that when he was writing in 1974, he would have been unaware of important information subsequently discovered as a result of litigation: a second edition of *Asbestos and disease* would have required significant revision of a number of judgements.

Enterline is quoted as referring to the adversarial positions taken up by the "experts" in the early 1960s. To be fair to him, he also gives as one of the reasons for the delay in the general acceptance of a relation between asbestos and cancer: "There were economic reasons, since the asbestos industry probably exercised some control over research, and findings unfavourable to the use of asbestos were clearly not in their interest (*Am J Ind Med* 1991;**20**:685–700)." There is support for his hypothesis of conspiracy in the confidential unpublished reports of the Saranac Laboratory that were available to sympathetic parties from the late 1930s onwards and have been added to by legal discovery.

Kelso challenges Weller's conclusion that industry hazarded men's lives for commercial gain as not based on scientific principles and facts. Nearer home, Kelso has the fact of Wittenoom where conditions were appalling by the standards of the time, and where there has been a substantial health hazard. In this instance, Weller is wrong. For all the loss of life, there was little in the way of commercial gain.

Kelso offers the old apologia: "How could industrialists take action when medical opinion was not agreed?" This does certain industrialists less than justice. They were far from naïve: some were persuaded despite the doubts expressed by their experts, that asbestos was a hazardous material, and periodically stepped up environmental controls in their plants.

The general reader must understand that the resurgence of an interest in the history of awareness of asbestos hazard is of more than academic interest. Each publication on the topic, where prepublication copies have not already been supplied, is systematically retrieved by attorneys employed in the asbestos litigation industry where the financial stakes and rewards are large.

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NOTICES

University of Cincinnati, NIOSH Educational Resource Centre, Environmental and Occupational Health and Safety, continuing education courses, January–July 1993.

Lead abatement training for inspectors. 16–18 March, 1993; 19–21 July, 1993 (Summer Institute)

The primary purpose of this course is to train individuals to inspect for lead based paint. The course also teaches individuals to inspect for other sources of lead, such as water, soil, and dust. Call 513/558-1730 for more information. 2.1 CEUs, ABIH points applied for. Fee: $500 (additional $50 for optional examination), $545—Summer Institute.

OSHA lockout/tagout and electrical work practice standards. 12–13 July, 1993 (Summer Institute)

This new two day course is designed to assist businesses in setting up their electrical safety programmes for compliance with the new OSHA regulations. Trainees will be given complete instruction on OSHA 29 CFR, Section 1910.331–.335 as well as hands on training on state of the art equipment. Call 513/558–1730 for more information. 1.4 CEUs, 1.4 CSPs. Fee: $350.

OSHA hazard communication compliance. 8 February, 1993

This course will give participants information on complying with all aspects of the OSHA Hazard Communication Standard, including the written plan, material safety data sheets, labelling, and employee training. Call 513/558–1730 for more information. 0.7 CEUs. Fee: $195.

Environmental assessments and audits training. 3–7 May, 1993

This course will provide the "how to" for various kinds of environmental site assessments and audits. Information will be provided to guide in the preparation of preassessment data gathering plans for both simple types of clean site audits and the complex industrial setting. Call 513/558-1730. 3.5 CEUs, 2.5 ABIH points, 3.5 CSP points. Fee: $850.

Health risk assessment: principles and techniques. 22–23 March, 1993

Concepts of health risk assessment including hazard assessment, dose-response definition, exposure assessment, and risk characterisation are presented. 1 ABIH point, 1 CEU. Call 513/558-1730 for information. Fee $275 ($850 if taken with "advanced risk assessment").

Advanced risk assessment: biological and environmental modelling. 24–26 March, 1993

Participants will gain direct, hands on experience in the application of environmental, physiological, and dose-response extrapolation models to risk assessment questions. Each

student will have the use of a microcomputer and will develop familiarity with both structure and applications of these models to quantitative risk assessment. 2.1 CEUs, 2.5 ABIH points. Call 513/558-1730 for information. Fee: $650 ($850 if taken with "health risk assessment: principles and techniques").

Risk management and system safety practice for occupational safety and health professionals. 26–29 April, 1993

This introductory level course first provides a brief working understanding of the management doctrine. It then presents a family of analytical engineering techniques currently in widespread use and outlines the specific advantages of each technique for application to practical system analysis problems. Call 513/558-1730 for more information. 2.8 CEUs, 2.8 CSPs, 4 ABIH points. Fee: $750.

New horizons in safety programme management. 17 May, 1993

This comprehensive course emphasises time proved systems for designing and integrating a total loss control programme encompassing safety of products, facilities, tooling, and associated equipment as well as traditional personnel safety considerations. Call 513/558–1730 for more information. 0.7 CEUs, 0.7 CSPs. Fee: $190.

Spirometry for physicians. 12 June, 1993

This one day course will review the measurement and significance of various spirometry test values and incorporate them into interpretation schemes. Recent changes in spirometry testing guidelines and government standards will be presented. The proper selection of predicted normal values and race adjustment will be discussed. Call 513/558-1730 for more information. 0.7 CEU. Fee: $150 ($200 at resort locations).

Understanding lung function tests. 16 April, 1993

This special one day course is designed for individuals needing an understanding of lung function testing procedures, definitions, applicable standards, testing guidelines, and quality control. Call 513/558-1730 for more information. 0.7 CEUs. Fee: $150.

Overview of respirators and respiratory protection. 2 April, 1993

This one day course provides a practical overview of respirators and fit testing techniques. The course is designed primarily for students with little or no prior formal training. Call 513/558-1730 for information. 0.7 CEUs. Fee: $150.

Audiometric techniques in industry. 19–21 July, 1993 (Summer Institute)

This course meets certification standards as developed by CAOHC and required by OSHA for occupational hearing conservation programmes. Call 513/558-1730. 2.1 CEUs, ONA & AOHN Contact hours applied for. Fee: $395 ($175 for last day only).

Bloodborne pathogen exposure assessment and programme management. 1 March 1993; 16 July, 1993 (Summer Institute)

This course is designed to explain the measures which must be implemented to protect employees from occupational exposure to blood and other potentially infectious materials. Call 513/558-1730 for more information. 0.7 CEUs, ONA and AOHN Contact hours applied for. Fee: $95, $125—Summer Institute.

Occupational and environmental toxicology for physicians. 22–24 July 1993 (Summer Institute)

Call 513/558-1730 for more information. 2.1 CEUs, CME points applied for. Fee: $495.

Introduction to industrial toxicology. 9–12 February, 1993; 13–16 July, 1993 (Summer Institute)

Modern basic concepts of toxicology will be presented with emphasis on the assessment of occupational risk from data derived from both epidemiological and basic research studies. Strategies for monitoring exposure to workers will also be discussed. Call 513/558-1730 for more information. 2.4 CEUs, 3.5 ABIH points. Fee: $645, $695—Summer Institute.

Industrial noise control. 12–14 July, 1993 (Summer Institute)

This course gives the participant an in-depth working knowledge of acoustics as it is applied to noise control. Traditional and advanced approaches to noise control and rationales for choosing a preferred approach are discussed. Call 513/558-1730 for more information. 2.1 CEUs, 3 ABIH points. Fee: $625, $675—Summer Institute.

Survey of industrial hygiene. 19–23 July, 1993 (Summer Institute)

In this course students will learn the basic techniques involved in the recognition, evaluation and control of potential health hazards in the workplace. The Course is geared toward individuals with minimal formal training in industrial hygiene. 3.2 CEUs. Call 513/558-1730 for information. Fee: $750, $795—Summer Institute.

Hazardous materials management certification programme. 9–10 June, 1993; exam 11 June, 1993

This programme provides the hazardous materials professional with a review of the regulatory and administrative requirements as well as technical areas in preparation for the certification exam. 2 ABIH points, 1.8 CEUs. Call 513/558-1730 for information. Fee: $395 (exam additional).

Lead abatement training for supervisors and contractors. 15–18 March, 1993; 19–22 July, 1993 (Summer Institute)

This course will cover methods to abate lead-based paint surfaces, as well as in interior and exterior dusts and soil. It is intended for persons with responsibilities for designing, planning, or conducting lead based paint, soil, and/or dust abatement programmes. The University of Cincinnati is an EPA-sponsored lead abatement training centre. 3.5 CEUs, 4 ABIH points. Call 513/558-1730 for information. Fee: $750 (additional $50 for optional examination), $800—Summer Institute.