

Occupational and Environmental Medicine



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If requested, authors shall produce the data on which the manuscript is based, for examination by the Editor.

Authors are asked to submit with their manuscript the names and addresses of three people who they consider would be suitable independent reviewers. They will not necessarily be approached to review the paper.

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Papers should follow the requirements of the International Committee of Medical Journal Editors (*JAMA* 1993;269:2282-6). Papers and references must be typewritten in double spacing on one side of the paper only, with wide margins. SI units should be used.

Short reports (including case reports) should be not more than 1500 words including a brief abstract. They should comprise sections of Introduction, Methods, Results, and Discussion with not more than one table or figure and up to 10 references. The format of case reports should be Introduction, Case report, and Discussion.

Illustrations Photographs and photomicrographs on glossy paper should be submitted unmounted. Charts and graphs should be carefully drawn in black ink on firm white paper. Legends to figures should be typed on a separate sheet of paper.

References References will not be checked by the editorial office; responsibility for the accuracy and completeness of references lies with the authors. Number references consecutively in the order in which they are first mentioned in the text. Identify references in texts, tables, and legends by Arabic numerals. References cited only in tables or in legends to figures should be numbered in accordance with a sequence estab-

lished by the first identification in the text of a particular table or illustration. Include only references essential to the argument being developed in the paper or to the discussion of results, or to describe methods which are being used when the original description is too long for inclusion. Information from manuscripts not yet in press or personal communications should be cited in the text, not as formal references.

Use the Vancouver style, as in this issue for instance, for a standard journal article: authors (list all authors when seven or fewer, when eight or more, list only six and add *et al*), title, abbreviated title of journal as given in *Index Medicus* (if not in *Index Medicus* give in full), year of publication, volume number, and first and last page numbers.

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- 16 Baird DD, Weinberg CR, Rowland AS. Reporting errors in time-to-pregnancy data collected with a short questionnaire: impact on power and estimate of fecundability ratios. *Am J Epidemiol* 1991;133:1282-90.
- 17 Zielhuis GA, Hulscher MEJL, Florack EIM. Validity and reliability of a questionnaire on fecundability. *Int J Epidemiol* 1992;21:1151-6.
- 18 Joffe M, Villard L, Li Z, Plowman R, Vessey M. Long-term recall of time-to-pregnancy. *Fertil Steril* 1993;60, 99-104.
- 19 Joffe M, Li Z. Male and female factors in fertility. *Am J Epidemiol* 1994;140:921-9.
- 20 Baird DD, Wilcox AJ, Weinberg CR. Use of time to pregnancy to study environmental exposures. *Am J Epidemiol* 1986;124:470-80.

Vancouver style

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

Occup Environ 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 the *JAMA*¹) is intended to standardise requirements for authors, and is the same as in this issue.

References should be numbered consecutively in the order in which they are first mentioned in the text by Arabic numerals on the line in square brackets on each occasion the reference is cited (Manson[1] confirmed other reports . . . [2][3][4][5] . . .). In future references to papers submitted to

Occup Environ Med should include: the names of all authors if there are seven or less or, if there are more, the first six 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. Titles not in *Index Medicus* should be given in full.

Examples of common forms of references are:

- 1 International Committee of Medical Journal Editors. Uniform requirements for manuscripts submitted to biomed journals. *JAMA* 1993;269:2282-6.
- 2 Soter NA, Wasserman SI, Austen KF. Cold urticaria: release into the circulation of histamine and eosinophil 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 Holness DL, Nethercott JR. Health status of funeral service workers exposed to formaldehyde. *Arch Environ Health* 1989;44:222-7.
- 7 Main DM, Hermann E. The respiratory status of foundry workers exposed to formaldehyde [abstract]. *Am Rev Respir Dis* 1984;129:157.
- 8 Alexandersson R, Kolmodin-Hedman B, Hedenstierna G. Exposure to formaldehyde: effects on pulmonary function. *Arch Environ Health* 1982;37:279-83.
- 9 Sauder LR, Chatham MD, Green DJ, Kulle TJ. Acute pulmonary response to formaldehyde exposure in healthy non-smokers. *J Occup Med* 1986;28:420-4.
- 10 Kulle TJ, Sauder LR, Hebel JR, Green DJ. Formaldehyde dose-response in healthy non-smokers. *Journal of Air Pollution Control Association* 1987;37:919-24.
- 11 Schachter EN, Tosun T, Witek Jr TJ, Beck GJ. A study of respiratory effects from exposure to 2 ppm formaldehyde in healthy subjects. *Arch Environ Health* 1986;41:229-39.
- 12 Akbar-Khanzadeh F, Vaquerano M U, Akbar-Khanzadeh M, Bisesi MS. Formaldehyde exposure and acute pulmonary response, and exposure control options in a gross anatomy laboratory. *Am J Ind Med* 1994;26:61-75.
- 13 American Thoracic Society. Standardization of spirometry, 1987 update. *Am Rev Respir Dis* 1987;136:1285-98.
- 14 Knudson RJ, Lebowitz MD, Holberg CJ, Burrows B. Changes in the normal maximal expiratory flow-volume curve with growth and aging. *Am Rev Respir Dis* 1983;127:725-34.
- 15 National Institute for Occupational Safety and Health. *Manual of analytical methods*. Vol 1. Cincinnati, Ohio: NIOSH, 1989. (Publ No 84-100.)
- 16 Chia S, Ong CN, Foo SC, Lee HP. Medical students' exposure to formaldehyde in a gross anatomy dissection laboratory. *J Am Coll Health* 1992;41:115-9.
- 17 Hruby J, Butler J. Variability of routine pulmonary function tests. *Thorax* 1975;30:548-53.
- 18 Gamble JF, McMichael AJ, Williams T, Battigelli M. Respiratory function and symptoms: an environmental-epidemiological study of rubber workers exposed to a phenol-formaldehyde type resin. *Am Ind Hyg Assoc J* 1976;37:499-513.
- 19 Walford J, Lammers B, Schilling RSF. Diurnal variation in ventilatory capacity. *Br J Ind Med* 1966;23:142-8.
- 20 Guberan E, Williams MK, Walford J, Smith MM. Circadian variation of FEV in shift workers. *Br J Ind Med* 1969;26:121-5.
- 21 Dimich HD, Sterling TD. Ventilatory function changes over a workshift. *Br J Ind Med* 1981;38:152-5.
- 22 Love RG. Lung function studies before and after a work shift. *Br J Ind Med* 1983;40:153-9.

Occupational and Environmental Medicine and the electronic age

OEM has an Email address which is 100632.3615@compuserve.com. We welcome contact by Email, including letters to the editor. Some of our reviewers already send us their reports by Email, helping to speed up the peer review process.

We are moving towards electronic publishing and for some months now we have been asking authors to send us their revised papers on disk as well as a hard copy. I am delighted to report that nearly all our

authors are managing to comply with this request. Oddly enough, the few authors who have not sent us a disk version of their revised papers have been almost exclusively from the United Kingdom. I would be interested in suggestions for why this might be. Perhaps United Kingdom based authors read our correspondence and instructions less assiduously? Watch for revised Instructions to Authors.

The Editor

panellists during humidification are stronger than those of men and older panellists.

This study was supported by The Finnish Work Environment Fund.

- 1 Reinikainen LM, Jaakkola JJK, Seppänen O. The effect of air humidification on symptoms and perceptions of indoor air quality in office workers: a six-period cross-over trial. *Arch Environ Health* 1992;47:8-15.
- 2 Reinikainen LM, Jaakkola JJK, Heinonen OP. The effect of air humidification on different symptoms in office workers—an epidemiologic study. *Environment International* 1991;17:243-50.

- 3 Nordström K, Norbäck D, Akselsson R. Effect of air humidification on the sick building syndrome and perceived indoor air quality in hospitals: a four month longitudinal study. *Occup Environ Med* 1994;51:683-8.
- 4 Berglund LG, Cain WS. *Perceived air quality and the thermal environment. IAQ 89, the human equation: health and comfort*. San Diego: ASHRAE, 1989:93-9.
- 5 Zweers T, Skov P, Valbjørn O, Mølhave L. The effect of ventilation and air pollution on perceived indoor air quality in five town halls. *Energy and Building* 1990;14:175-81.
- 6 Lindvall T. On sensory evaluation of odorous air pollutant intensities. *Nordisk Hygienisk Tidskrift* 1970;(suppl 2): 98-106.

Correspondence and editorials

Occupational and Environmental 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. Tables 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 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.

- choorganic syndromes among workers with exposure to solvents. *Am J Ind Med* 1984;5:287-95.
- 10 Lundberg I, Michélsen H, Nise G, Hogstedt C, Högberg M, Alfredsson L, et al. Neuropsychiatric function among housepainters with previous long-term heavy exposure to organic solvents. *Scand J Work Environ Health* 1995; 21(suppl 1):1-44.
 - 11 Gyntelberg F, Flarup M, Mikkelsen S, Palm T, Ryom C, Suadican P. Computerised coordination ability testing. *Acta Neurol Scand* 1990;82:39-42.
 - 12 American Psychiatric Association. *Diagnostic and statistical manual for mental disorders*, 1980.
 - 13 American Psychiatric Association. *Quick reference to the diagnostic criteria from DSM-III*. Stockholm: Pilgrim Press, 1984. (In Swedish Mini-D).
 - 14 EGRET. *Reference manual. Revision 4*. Seattle: Statistics and Epidemiology Research Corporation and Cytel Software, 1993.
 - 15 Axelson O, Hane M, Hogstedt C. A case-referent study on neuropsychiatric disorders among workers exposed to solvents. *Scand J Work Environ Health* 1976;2:14-20.
 - 16 Anshelm Olson B. Effects of organic solvents on behavioral performance of workers in the paint industry. *Neurobehav Toxicol Teratol* 1982;4:703-8.
 - 17 Bolla K, Schwartz B, Agnew J, Ford P, Bleeker M. Subclinical neuropsychiatric effects of chronic low-level solvent exposure in US paint manufacturers. *J Occup Med* 1990;32:671-7.
 - 18 Cherry N, Hutchins H, Pace T, Waldron HA. Neuro-behavioral effects of repeated occupational exposure to toluene and paint solvents. *Br J Ind Med* 1985;42: 291-300.
 - 19 Edling C, Anundi H, Johansson G, Nilsson K. Increase in neuropsychiatric symptoms after occupational exposure to low levels of styrene. *Br J Ind Med* 1993;50:843-50.
 - 20 Flodin U, Ekberg K, Andersson L. Neuropsychiatric effects of low exposure to styrene. *Br J Ind Med* 1989;46:805-8
 - 21 Ng T, Ong S, Lam W, Jones G. Neurobehavioural effects of industrial mixed solvent exposure in Chinese printing and paint workers. *Neurotoxicol Teratol* 1990;12:661-4
 - 22 Ng T, Lim L, Win K. An investigation of solvent-induced neuro-psychiatric disorders in spray painters. *Ann Acad Med (Singapore)* 1992;21:797-803.
 - 23 Spurgeon A, Gray C, Sims J, Calvert I, Levy L, Harvey P, Harrington M. Neurobehavioral effects of long-term occupational exposure to organic solvents: two comparable studies. *Am J Ind Med* 1992;22:325-35.
 - 24 Spurgeon A, Glass D, Calvert I, Cunningham-Hill M, Harrington M. Investigation of dose related neurobehavioural effects in paintmakers exposed to low levels of solvents. *Occup Environ Med* 1994;51:626-30.
 - 25 Triebig G, Schaller K, Weltle D. Neurotoxicity of solvent mixtures in spray painters. I. Study design, workplace exposure, and questionnaire. *Int Arch Occup Environ Health* 1992;64:353-9.
 - 26 Michélsen H, Lundberg I. Neuropsychological verbal tests may lack hold properties in occupational studies of neurotoxic effects. *Occup Environ Med* 1996;53:478-83.

Rejected manuscripts

From February 1994, authors whose submitted articles are rejected will be advised of the decision and one copy of the article, together with any reviewers' comments, will

be returned to them. The *Journal* will destroy remaining copies of the article but correspondence and reviewers' comments will be kept.

designed to investigate effects of EMFs. Factors possibly associated with cancer were: work environments where soldering was practised, the use of chemicals and solvents, and piercing and sawing asbestos plates used for thermal insulation. When other authors have cited these studies, the term "exposure to EMFs" should have been replaced by "working in electronics-related industries". This is an important distinction and not just a matter of semantics.

Articles continue to be cited incorrectly. Erren¹⁰ stated that Vågerö and Olin⁹ showed that EMFs "have been associated with lung cancer". Wilson and Stevens¹¹ summarised studies already mentioned^{4,6} and a more recent one¹² as being suggestive of an association between exposures to EMFs and cancer. Henshaw *et al.*¹³ and Miyakoshi *et al.*¹⁴ cited Guénel *et al.*¹⁵ also in support of this association. Guénel *et al.*¹⁵ however, noted that the risk "was mainly in electricians in installation works and iron foundry workers. Besides EMFs other exposures should be considered as possible aetiological agents". Fear *et al.*¹⁶ listed some of these studies^{6,9,15} as showing that "cancers have been previously linked with exposure to extremely low frequency EMF". Again, "working in electronics-related industries" is not equivalent simply to "exposure to EMFs".

Raabe and Wong¹⁷ noted that "electrical engineers" in one of the studies⁷ mentioned above actually consisted of people with a graduate degree in electrical engineering. As the authors noted: "An academic degree is obviously not a good measure for EMF exposure."

It is misleading to cite references that do not support the alleged associations with EMFs with cancer. Improper citations are not the fault of the original authors in the *Journal*, who reported their results with all the necessary caveats regarding correct interpretations of their findings. Hopefully, in the future, there will be fewer errors of citation of this nature. (The opinions are those of the authors and do not necessarily state or reflect those of the US government.)

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- 1 Feinstein AR, Spitzer WO. Who checks what in the divided responsibilities of editors and authors? [editorial]. *J Clin Epidemiol* 1988;41:945-8.
- 2 Jauchem JR. Alleged health effects of electromagnetic fields and microwaves: additional misconceptions in the literature. *J Microwave Power Electromagnetic Energy* 1993;28:140-55.
- 3 Jauchem JR. Alleged health effects of electromagnetic fields: the misconceptions continue. *J Microwave Power Electromagnetic Energy* 1995;30:165-77.
- 4 Vågerö D, Ahlbom A, Olin R, Sahlsten S. Cancer morbidity among workers in the telecommunications industry. *Br J Ind Med* 1985;42:191-5.
- 5 Törnqvist S, Norell S, Ahlbom A, Knave B. Cancer in the electric power industry. *Br J Ind Med* 1986;43:212-3.
- 6 De Guire L, Thériault G, Iturra H, Provencher S, Cyr D, Case BW. Increased incidence of malignant melanoma of the skin in workers in a telecommunications industry. *Br J Ind Med* 1988;45:824-8.
- 7 Olin R, Vågerö D, Ahlbom A. Mortality experience of electrical engineers. *Br J Ind Med* 1985;42:211-2.
- 8 Gubéran E, Usel M, Raymond L, Tissot R, Sweetnam PM. Disability, mortality, and incidence of cancer among Geneva painters and electricians: a historical prospective study. *Br J Ind Med* 1989;46:16-23.

- 9 Vågerö D, Olin R. Incidence of cancer in the electronics industry: using the new Swedish Cancer Environment Registry as a screening instrument. *Br J Ind Med* 1983;40:188-92.
- 10 Erren TC. Re: "Association between exposure to pulsed electromagnetic fields and cancer in electric utility workers in Quebec, Canada, and France" [letter]. *Am J Epidemiol* 1996;143:841.
- 11 Wilson BW, Stevens RG. Occupational exposure to electromagnetic fields: the case for caution. *Appl Occup Environ Hyg* 1996;11:299-306.
- 12 Vågerö D, Swerdlow AJ, Beral V. Occupation and malignant melanoma: a study based on cancer registration data in England and Wales and in Sweden. *Br J Ind Med* 1990;47:317-24.
- 13 Henshaw DL, Ross AN, Fewes AP, Preece AW. Enhanced deposition of radon daughter nuclei in the vicinity of power frequency electromagnetic fields. *Int J Radiat Biol* 1996;69:25-38.
- 14 Miyakoshi J, Yamagishi N, Ohtsu S, Mohri K, Takebe H. Increase in hypoxanthine-guanine phosphoribosyl transferase gene mutations by exposure to high-density 50-Hz magnetic fields. *Mutat Res* 1996;349:109-14.
- 15 Guénel P, Raskmark R, Anderson JB, Lynge E. Incidence of cancer in persons with occupational exposure to electromagnetic fields in Denmark. *Br J Ind Med* 1993;50:758-64.
- 16 Fear NT, Roman E, Carpenter LM, Newton R, Bull D. Cancer in electrical workers: an analysis of cancer registrations in England, 1981-7. *Br J Cancer* 1996;73:935-9.
- 17 Raabe GK, Wong O. Occupational electric and magnetic field exposure and brain cancer [letter]. *J Occup Environ Med* 1996;38:655-6.

NOTICE

International Occupational Hygiene Association 3rd International Scientific Conference. 13-18 September 1997. Crans-Montana, Switzerland

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Further information from: Dr Alfred F Steinegger, Route Darmona, CH-3973 Venthône, Switzerland. Phone and Fax: +41 27 456 38 92. E-Mail: hfconsultant@access.ch. Currently updated information 3rd International Scientific Conference:

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BOOK REVIEW

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Hazardous Chemicals: Desk Reference
4th ed. R J LEWIS. (Pp 1644; price £89.00.) 1997. New York: Van Nostrand Reinhold. ISBN 442 023227.

This is probably the best single volume reference work on the toxicology of chemicals currently available. The data presented have been extracted from the well known *Dangerous Properties of Industrial Chemicals*, 9th ed. Data on more than 5000 compounds and preparations are presented: each entry being in a consistent and helpful format. For the occupational physician the provision of OSHA, ACGIH, and DFG (MAK) values where available will be invaluable. Also, CAS numbers and details of current evaluations of carcinogenicity are provided. An exhaustive list of synonyms (over 100 for malathion) is given for each compound as is a short description of its physical characteristics. Some of the descriptions of physical characteristics are perhaps eccentric: few will meet ozone as "blue or violet-black solid" or even as a "dark-blue liquid"! For the physician the "safety profile" will probably be the most used part of any entry. This profile is telegraphic in style but packs in a lot of useful information. No information on case management is provided. A valuable feature of this book is that entries are provided for groups of compounds—for example, carbonates, chlorates, esters. Of course the value of a brief safety profile of a group of compounds as diverse as "esters" can be questioned but I have found these general entries informative.

The index is heavily cross referenced and occupies 367 pages each of two closely printed columns.

As to single volume competitors: the Merck Index is the most obvious. Merck offers wider coverage but less information of immediate use to the occupational physician.

As a book to turn to when asked the symptoms likely to be produced by a compound of which you have never heard this is excellent. Good value at £89.00.

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