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20 World Health Organisation. *International classification of diseases. 9th ed. Manual of the international statistical classifcation of diseases, injuries and causes of death.* Vol 1. Geneva: WHO 1977.
21 Breslow N, Day N. *Statistical methods in cancer research. Volume ii - the design and analysis of cohort studies.* Lyon: IARC, 1987. (IARC Publ Sci No 82.)
22 Office of Population Censuses and Surveys. Mortality analysis system and stage III. London: OPCS.
23 Bailar JC, Ederer F. Significance factors for the ratio of a Poisson variable to its expectation. *Biometrics* 1964;**20**:639-43.
24 Carpenter LM. Some observations on the healthy worker effect. *Br J Ind Med* 1987;**44**:289-91.
25 Doll R, Peto R, Wheatley K, Gray R, Sutherland I. Mortality in relation to smoking: 40 years' observations on male British doctors. *BMJ* 1994;**309**:901-11.
26 Office of Population Censuses and Surveys. Occupational mortality: the Registrar General's decennial supplement part II 1951. London: HMSO, 1958.
27 Office of Population, Censuses and Surveys and International Agency for Research on Cancer. Cancer mortality by occupation and social class 1851-1971. In: Logan WPD, ed. *Studies on medical and population subjects. No 44.* Lyon: IARC 1982. (IARC Sci Publ No 36.)
28 Caplan RP. Stress, anxiety, and depression in hospital consultants, general practitioners and senior health service managers. *BMJ* 1994;**309**:1261-3.
29 Bruce DL, Eide KA, Linde HW, Eckenhoff JE. Causes of death among anaesthesiologists: a 20-year survey. *Anaesthesiology* 1968;**29**:565-9.
30 Editorial. Occupational infection among anaesthetists. *Lancet* 1990;**336**:1103.
31 Guirguis SS, Pelmear PL, Roy ML, Wong L. Health effects associated with exposure to anaesthetic gases in Ontario hospital personnel. *Br J Ind Med* 1990;**47**:490-7.
32 Vessey MP, Nunn JF. Occupational hazards of anaesthesia. *BMJ* 1980;**281**:696-8.
33 Harrington JM. The health of anesthetists. *Anaesthesia* 1987;**42**:131-2.
34 Harrington JM, Oakes D. Mortality study of British pathologists, 1974-80. *Br J Ind Med* 1984;**41**:188-91.
35 Matanoski GM, Seltser R, Sartwell PE, Diamond EL, Elliott EA. The current mortality rates of radiologists and other physician specialists: deaths from all causes and from cancer. *Am J Epidemiol* 1975;**101**:188-98.
36 Matanoski GM, Seltser R, Sartwell PE, Diamond EL, Elliott EA. The current mortality rates of radiologists and other physician specialists: specific causes of death. *Am J Epidemiol* 1975;**101**:199-210.

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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.

28 Webb MAH, Chettle DR, Al-Haddad IK, Downey SPMJ, Harvey TC. Measurement of cadmium in liver and kidney using in vivo techniques. *Ann Occup Hyg* 1982;**25**:33–7.
29 Gompertz D, Fletcher JG, Perkins J, Smith NJ, Chettle DR, Mason H, *et al.* Renal dysfunction in cadmium smelters: relation to in-vivo liver and kidney cadmium concentrations. *Lancet* 1983;1185–7.
30 Ellis KJ, Yuen K, Yasumura S, Cohn SH. Dose-response analysis of cadmium in man: body burden *v* kidney dysfunction. *Environ Res* 1984;**33**:216–26.
31 Ellis KJ, Cohn SH, Smith TJ. Cadmium inhalation exposure estimates: their significance with respect to kidney and liver cadmium burden. *J Toxicol Environ Health* 1985;**15**:173–87.
32 Guthrie CJG, Franklin DM, Scott MC, Chettle DR, Mason HJ, Smith NJ, *et al.* A longitudinal survey of exposure to cadmium fume - preliminary findings from in vivo body burden measurements. In: Ellis KJ, Yasumura S, Morgan WD, eds. *In vivo body composition studies*. London: The Institute of Physical Sciences in Medicine, 1987:349–56.
33 Mason HJ, Davison AG, Wright AL, Guthrie CJG, Fayers PM, Venables KM, *et al.* Relations between liver cadmium, cumulative exposure, and renal function in cadmium alloy workers. *Br J Ind Med* 1988;**45**:793–802.
34 Franklin DM, Guthrie CJG, Chettle DR, Scott MC, Mason HJ, Davison AG, Newman-Taylor AJ. In vivo neutron activation analysis of organ cadmium burdens. Referent levels in liver and kidney and the impact of smoking. *Biol Trace Elem Res* 1990;**26–27**:401–6.
35 Morgan WD, Ryde SJS, Jones SJ, Wyatt RM, Hainsworth IR, Cobbold SS, *et al.* In vivo measurements of cadmium and lead in occupationally-exposed workers and an urban population. *Biol Trace Elem Res* 1990;**26–27**:407–14.
36 Armstrong R, Chettle DR, Scott MC, Blindt M, Mason HJ. Longitudinal studies of exposure to cadmium. *Br J Ind Med* 1992;**49**:556–9.
37 Svartengren M, Elinder CG, Friberg L, Lind B. Distribution and concentration of cadmium in human kidney. *Environ Res* 1986;**39**:1–7.
38 Baddeley H, Thomas BJ, Thomas BW, Summers V. Liver cadmium concentrations in metal industry workers. *Br J Radiol* 1983;**56**:449–51.
39 Järup L, Rogenfält A, Elinder C-G. Nogawa K, Kjellström T. Biological half-time of cadmium in the blood of workers after cessation of exposure. *Scand J Work Environ Health* 1983;**9**:327–31.
40 Friberg L, Elinder CG, Kjellström T, Nordberg GF. General summary and conclusions and some aspects of diagnosis and treatment of chronic cadmium poisoning. In: Friberg L, Elinder C-G, Kjellström T, Nordberg GF, eds. *Cadmium and health: a toxicological and epidemiological appraisal. Vol II. Effects and response.* Boca Raton: CRC Press, 1986:247–55.
41 Ellis KJ, Vartsky D, Zanzi I, Cohn SH, Yasumura S. Cadmium: in vivo measurement in smokers and non-smokers. *Science* 1979;**205**:323–5.
42 Elinder C-G. Normal values for cadmium in human tissues, blood, and urine in different countries. In: Friberg L, Elinder C-G, Kjellström T, Nordberg GF, eds. *Cadmium and health: a toxicological and epidemiological appraisal. Vol I. Exposure, dose and metabolism.* Boca Raton: CRC Press,1985:81–102.
43 SIVARG (Swansea in vivo analysis research group). *Body burden following exposure to heavy metals.* Swansea: Department of Medical Physics and Clinical Engineering, Singleton Hospital, May 1990. (Report WEP181/100/2.)
44 Chettle DR, Ellis KJ. Further scientific issues in determining an occupational standard for cadmium. *Am J Ind Med* 1992;**22**:117–24.
45 Lauwerys RR, Bernard AM, Roels HA, Buchet J-P. Cadmium: exposure markers as predictors of nephrotoxic effects. *Clin Chem* 1994;**40**:1391–4.
46 Järup L, Elinder CG. Decreased glomerular filtration rate in solderers exposed to cadmium. *Occup Environ Med* 1995;**52**:818–22.
47 Sumino K, Hayakawa K, Shibata T, Kitamura S. Heavy metals in normal Japanese tissues. *Arch Environ Health* 1975;**30**:487–94.

## Rejected manuscripts

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2 Shipp MA, Look AT. Hematopoietic differentiation antigens that are membrane-associated enzymes: cutting is the key. *Blood* 1993;**82**:1052–70.
3 Roques BP, Noble F, Daug V, Fournie-Zaluski M-C, Beaumont A. Neutral endopeptidase 24.11: structure, inhibition, and experimental and clinical pharmacology. *Pharmacol Rev* 1993;**45**:87–146.
4 Schulz WW, Hagler HK, Buja LM, Erdös EG. Ultrastructural localization of angiotensin I- converting enzyme (EC 3.4.15.1) and neutral metalloendo-peptidase (EC 3.4.24.11) in the proximal tubule of the human kidney. *Lab Invest* 1988;**59**:789–97.
5 Skidgel RA, Schulz WW, Tam LT, Erdös EG. Human renal angiotensin I converting enzyme and neutral endopeptidase. *Kidney Int* 1987;**31**:45–8.
6 Deschodt-Lanckman M, Michaux F, de Prez, Abramowicz D, Vanherweghem J-L, Goldman M. Increased serum levels of endopeptidase 24.11 (enkephalinase) in patients with end-stage renal failure. *Life Sci* 1989;**45**:133–41.
7 Nortier J, Abramowicz D, Kinnaert P, Deschodt-Lanckman M, Vanherweghem JL. Pathological release of urinary endopeptidase 24.11 early after renal transplantation. *Enzyme* 1992;**46**:304–8.
8 Berndt WO. Role of transport in chemically-induced nephrotoxicity. In: Goldberg RS. *Mechanisms of injury in renal disease and toxicity*. Ann Arbor: CRC Press, 1994:235–46.
9 Bernard AM, Roels HA, Buchet JP, Cardenas A, Lauwerys RR. Cadmium and health: the Belgian experience. In: Nordberg GF, Herber RFM, Alessio L. *Cadmium in the human environment: toxicity and carcinogenicity*. Lyon: IARC, 1992: 15–33. (IARC Sci Publ No 118.)
10 Lauwerys RR, Bernard AM, Roels HA, Buchet JP. Cadmium: exposure markers as predictors of nephrotoxic effects. *Clin Chem* 1994;**40**:1391–4.
11 Nouwen EJ, de Broe M. Human intestinal versus tissue-nonspecific alkaline phosphatase as complementary urinary markers for the proximal tubule. *Kidney Int* 1994;**46**: S43–51.
12 Roels HA, Bernard AM, Cardenas A, Buchet JP, Lauwerys RR, Hotter G, *et al*. Markers of early renal changes induced by industrial pollutants. III Applications to workers exposed to cadmium. *Br J Ind Med* 1993;**50**:37–48.
13 Bernard AM, Thielemans N, Roels HA, Lauwerys RR. Association between NAG-B and cadmium in urine with no evidence of a threshold. *Occup Environ Med* 1995;**52**: 177–80.
14 Staessen JA, Lauwerys RR, Ide G, Roels HA, Vincke G, Amery A. Renal function and historical environmental cadmium pollution from zinc smelters. *Lancet* 1994;**343**: 1523–7.
15 Cockcroft DW, Gault MH. Prediction of creatinine clearance from serum creatinine. *Nephron* 1976;**16**:31–41.
16 Tucker SM, Boyd PJR, Thompson AE, Price RG. Automatic assay of N-acetyl-β-D-glucosaminidase in normal and pathological human urine. *Clin Chim Acta* 1975;**62**:333–9.
17 Kritz W, Samaan GJ, Leberre C, Demelier JF, Biou D. Semi-automated fluorimetric assay for total and B N-acetyl-β-D-glucosaminidase: analytical investigation. *J Clin Lab Analysis* 1991;**5**:1–2.
18 Bernard AM, Lauwerys RR. Continuous flow system for the automation of latex immunoassay by particle counting. *Clin Chem* 1983;**29**:1007–11.
19 Roels HA, Lauwerys RR, Buchet JP, Bernard AM, Vos A, Overstyns M. Health significance of cadmium-induced renal dysfunction: a five-year follow-up. *Br J Ind Med* 1989;**46**:755–64.
20 American Conference of Governmental Industrial Hygienists. Cadmium, methylisobutylketone and trichloroethylene. *Appl Occup Environ Hyg* 1991;**6**:703–10.
21 Fels LM, Bundschuh I, Gwinner W, Jung K, Pergande M, Graubaum HJ, *et al*. Early urinary markers of target nephron segments as studied in cadmium toxicity. *Kidney Int* 1994;**46**:S81-8.
22 Prozialek WC, Nieuwenhuis RJ. Cadmium ($Cd^{++}$) disrupts intercellular junctions and actin filaments in LLC-PK1 cells. *Toxicol Appl Pharmacol* 1991;**107**:81–97.
23 Kimura O, Endo T, Sakata M. Comparison of cadmium uptakes from apical and basolateral membranes of LLC-PK1 cells. *Toxicol Appl Pharmacol* 1996;**137**:301–6.
24 Kellerman PS, Clark RAF, Hoilien CA, Linas SL, Molitoris BA. Role of microfilaments in maintenance of proximal tubule structural and functional integrity. *Am J Physiol* 1990;**259**:F279–85.
25 Reed DJ. Glutathione: toxicological implications. *Ann Rev Pharmacol Toxicol* 1990;**30**:603–31.
26 Splittgerber AG, Tappel AL. Inhibition of glutathione peroxidase by cadmium and other metal ions. *Arch Biochem Biophys* 1979;**197**:534–42.
27 Sidhu M, Sharma M, Bhatia M, Awasthi YC, Nath R. Effects of chronic cadmium exposure on glutathione S-transferase and glutathione peroxidase activities in rhesus monkey: the role of selenium. *Toxicology* 1993;**83**: 203–13.
28 Prozialek WC, Lamar P. Effects of glutathione depletion on the cytotoxic actions of cadmium in LLC-PK1 cells. *Toxicol Appl Pharmacol* 1995;**134**:285–95.

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prevention of those respiratory symptoms related to work. Detailed studies on working conditions and exposures in hairdressing salons are needed.

This study was supported by a grant from the Finnish Work Environment Fund. We thank Dr Helena Piirainen, Mr Asko Lötjönen, the staff of the CATI Unit at the Kuopio Regional Institute of Occupational Health for their excellent help with the data collection and processing, and Ms Terttu Kaustia for the language revision.

1 Meredith S, Nordman H. Occupational asthma: measures of frequency from four countries. *Thorax* 1995;**51**:435.
2 Wenninger JA, McEwen GN Jr, eds. *International cosmetic ingredient dictionary*. Washington, DC: The Cosmetic, Toiletry, and Fragrances Association, 1993:937–97.
3 Palmer A, Renzetti A, Gillam D. Respiratory disease prevalence in cosmetologists and its relationship to aerosol sprays. *Environ Res* 1979;**19**:136–53.
4 Blainey A, Ollier S, Cundell D, Smith R, Davies R. Occupational asthma in hairdressing salon. *Thorax* 1986;**41**:42–50.
5 Swift D, Zuskin E, Bouhuys A. Respiratory deposition of hair spray aerosol and acute lung function changes. *Am Rev Respir Dis* 1976;**113**(suppl):96.
6 Friedman M, Dougherty R, Nelson SR, White RP, Sackner MA, Wanner A. Acute effects of aerosol hair spray on tracheal mucociliary transport. *Am Rev Respir Dis* 1977;**116**: 281–6.
7 Schlueter DP, Soto RJ, Baretta ED, Herrmann AA, Ostrander LE, Stewart RD. Airway response to hair spray in normal subjects and subjects with hyperreactive airways. *Chest* 1979;**75**:544–8.
8 Zuskin E, Bouhuys A, Beck G. Hair sprays and lung function. *Lancet* 1978;ii:1203.
9 Zuskin E, Loke J, Bouhuys A. Helium-oxygen flow-volume curves in detecting acute response to hair sprays. *Int Arch Occup Environ Health* 1981;**49**:41–4.
10 Borum P, Loekkegaard N, Holten A. Nasal mucociliary clearance in hairdressers. *Clinical Otolaryngology and Allied Sciences* 1984;**9**:329–34.
11 Schwartz HJ, Arnold JL, Strohl KP. Occupational allergic rhinitis in the hair care industry: reactions to permanent wave solutions. *J Occup Med* 1990;**32**:473–5.
12 Gaultier R, Gervais P, Mellerio F. Two cases of occupational asthma and urticaria in hairdressers: persulphate and silk. *Archives der Maladies Professionnelles* 1966;**27**:809.
13 Pepys J, Hutchcroft BJ, Breslin ABX. Asthma due to inhaled chemical agents — persulphate salts and henna in hairdressers. *Clin Allergy* 1976;**6**:399–404.
14 Pankow W, Hein H, Bittner K, Wichert P. Persulfate asthma in hairdressers. *Pneumologie* 1989;**3**:173–5.
15 Schwaiblmair M, Baur X, Fruhmann G. Bronchial asthma caused by hairbleach in a hairdresser. *Dtsch Med Wochenschr* 1990;**18**:695–7.
16 Parra FM, Igea JM, Quirce S, Ferrando MC, Martin JA, Losada E. Occupational asthma in a hairdresser caused by persulphate salts. *Allergy* 1992;**47**:656–60.
17 Starr J, Yunginger J, Brahser G. Immediate type I asthmatic response to henna following occupational exposure in hairdressers. *Ann Allergy* 1982;**48**:98–9.
18 Stringer G, Hunter S, Bonnabeau R. Hypersensitivity pneumonitis following prolonged inhalation of hair spray. *Am Med Assoc J* 1977;**238**:888–9.
19 Gebbers J-O, Tetzner C, Burkhardt A. Alveolitis due to hair-spray. *Virchows Archiv A Pathological Anatomy and Histopathology* 1979;**382**:323–38.
20 Bergmann M, Flance IJ, Blumenthal H. Thesaurosis following inhalation of hairspray: a clinical and experimental study. *N Engl J Med* 1958;**258**:471.
21 Gelfand H. Respiratory allergy due to chemical compounds encountered in the rubber, lacquer, shellac and beauty culture industries. *J Allergy* 1963;**34**:374–81.
22 Renzetti A, Conrad J, Watanabe S, Palmer A, Armstrong J. Thesaurosis - from hairspray exposure - a nondisease. *Environ Res* 1980;**22**:130–8.
23 Ameille J, Pages MG, Capron F, Proteau J, Rochemaure J. Pathologie respiratoire induite par l'inhalation de laque capillaire. *Rev Pneumol Clin* 1985;**41**:325–30.
24 *CASES. Computer-assisted survey methods program: user's guide to CASES*. Berkeley, CA: University of California, 1989.
25 Frey JH. *Survey research by phone, 2nd ed.*New York: Sage Publication, 1989. (Sage Library of Social Research 150.)
26 Medical Research Council's Committee on the Aetiology of Chronic Bronchitis. Standardized questionnaires on respiratory symptoms. *BMJ* 1960;ii:1665.
27 *SAS / STAT. User's guide, version 6, 4th ed.* Vol 2. Cary, NC: SAS Institute, 1990.
28 Torén K, Brisman J, Järvholm B. Asthma and asthma-like symptoms in adults assessed by questionnaires — a literature review. *Chest* 1993;**104**:600–18.
29 Li JTC, O'Connell EJO. Clinical evaluation of asthma. *Ann Allergy Asthma Immunol* 1996;**76**:1–13.
30 Bakke P, Blöndal T, Haahtela T, Lundgren R, Rasmussen FV, Walstad R. Care of obstructive lung diseases in the Nordic countries. *Eur Respir Rev* 1995;**5**:350–5.
31 Terho EO, Husman K, Vohlonen I. Prevalence and incidence of chronic bronchitis and farmer's lung with respect to age, sex, atopy and smoking. *Eur J Respir Dis* 1987;**71**:19–28.

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**Occupational Medicine,** 3rd ed. ZENZ C, DICKERSON OB, HORVATH EP JR (Pp 1336; £149) 1994. St Louis: Mosby year book. ISBN 0-8016-6676-7.

About the weight of a small toddler and 1336 pages long, this is a large North American textbook of occupational medicine. Previous editions appeared in 1975 and 1988.

It is compendious, with eight sections on clinical factors, occupational pulmonary diseases, the physical occupational environment, the chemical occupational environment, selected work categories of concern, behavioural considerations, fundamental disciplines and related activities for prevention and control, and other special activities within the occupational health setting. There are nine appendices on a range of topics including, for example, current occupational exposure limits, a SI conversion table, and a list of exposures associated with occupational dermatosis. This leads to an admirable range, from alcohol abuse to zoonoses, air pollution indoors to zinc toxicity.

Of the 104 authors, over two thirds are from North America, with a fairly high proportion in corporate occupational health practice although there are contributors from universities and regulatory agencies in the United States. Almost a further quarter are from the Nordic countries. A handful only are from the rest of the world. Some contributions are masterly mini reviews by experts in their fields.

It is always possible to pick holes in textbooks in areas where one claims a little knowledge. The respiratory section contains a good chapter on pulmonary function tests but remarkably little on radiology, and few illustrations of radiographs. As a specific example, the chapter on occupational asthma focuses on diagnosis and medicolegal issues, reflecting North American practice and although easy to read and helpful on these matters, barely covers epidemiology, risk factors, pathogenesis, and rehabilitation. The chapter starts with an all embracing definition of occupational asthma including RADS and work provoked asthma, but then mainly discusses allergic occupational asthma. The unwary reader could be confused and an unhelpful algorithm makes things more opaque. A description of diagnostic pulmonary function testing is superficially detailed but, on careful reading, could not be used as a basis for clinical practice because of insufficent information. There are errors, including a repeated statement that skin patch tests are used to define atopy—it should, of course, be prick tests. Other errors are present in the tables of causes of allergic occupational asthma, including a listing for platinum metal instead of complex halogenated platinum salts. Some of the material in this chapter overlaps with other sections. Platinum compounds, for example, are also covered in a section on other metals and their compounds (which includes the unfortunate error of ascribing specific IgE antibodies to a type IV hypersensitivity response). This short section is also out of date, with no reference to recent epidemiological surveys or experimental primate work.

What is the role for such large multiauthor textbooks of occupational medicine these days? Of course they are heterogeneous in quality and they are often out of date. There are excellent short textbooks of occupational medicine for the trainee physician or non-clinical occupational health professional who needs an overview. Specialist occupational physicians usually acquire monographs in their areas of interest. Literature searching is now easy with Medline or one of the occupational health databases. The market for large textbooks must, surely, be smaller although there remains a need for reliable reference works in libraries. Part time occupational physicians may also find them useful as aides-memoire. Perhaps they are analogous to household encyclopaedias? Browse through them, dip into sections, use them as a first resource for reading about a new subject—but cross check with other sources before you quote from them.

K M VENABLES

# NOTICES

**Environmental technology MSc course. From September 1997. Imperial College of Science, Technology, and Medicine, London.**

*Environment and Health* is a new option in the one year MSc course in Environmental Technology, which starts in September. The programme is designed to provide graduates with appropriate interdisciplinary training in the scientific, medical, and policy issues within the framework of environment and health. Environmental and occupational issues will be considered with an emphasis on pollution and environmental assessment, epidemiological principles, and methods, evaluation of environmental hazards including toxicology, and environment and health policy.

For information, please contact Ms Alison Evans 0171-594 9285.

**National Occupational Injury Research Symposium. 15-17 October, 1997. Appalachian Laboratories for Occupational Safety and Health, Morgantown, West Virginia, USA.**

The organisers of this symposium are the National Institute for Occupational Safety and Health (NIOSH), in association with its public and private sector partners.

Objectives:

- Provide a forum for the presentation of scientific research findings and methods in the field of traumatic occupational injury
- Foster collaboration between researchers in the various disciplines and between the public and private organisations that conduct or sponsor traumatic occupational injury research
- Identify effective interventions, and increase injury prevention efforts based on research findings
- Stimulate an increase in the quantity and quality of traumatic occupational injury research
- As well as traditional disciplines and topic areas, explore underused disciplines and topic areas of traumatic occupational injury research —such as the economics of occupational injury and other social and behavioural science fields
- Serve as an element of the implementation of the National Occupational Research Agenda (NORA) developed by NIOSH and its partners

The Symposium will consider many important questions, including:

- What are the latest traumatic occupational injury research findings and methods?
- What are emerging problem areas in workplace trauma?
- How is high technology being applied to occupational injury research and prevention?
- Which interventions and prevention strategies do and do not work, and in what specific workplaces and under what circumstances?
- What are the economic costs of occupational injuries and the cost-effectiveness of prevention strategies?
- What are current and emerging research areas and disciplines?
- What are the trends in occupational injury and fatality incidence, in research tools, techniques, methods, in prevention?
- What are the specific workplace risks faced by children and adolescents, older adults, minority workers, non-English speaking workers, low literacy workers, and other special populations?
- How can researchers and practitioners in different sectors and disciplines collaborate and coordinate their activities to reduce traumatic occupational injuries?
- What methods are available for assessing, measuring, and comparing traumatic occupational injury risks?

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