Table of Contents

MeSH Terms for Occupational Health for Health Care Workers .............................................. 4
Methodology/ Méthodologie ........................................................................................................ 4
Biological hazards/Risques biologiques .................................................................................... 4
Blood exposures/AES ................................................................................................................ 4
  Accidental infection of laboratory worker with vaccinia. ......................................................... 4
  Potential exposure to hepatitis C virus through accidental blood contact in interventional radiology. ............................................................................................................................. 4
Hepatitis C virus risk in the interventional radiology environment. ........................................ 5
Occupationally acquired human immunodeficiency virus (HIV) infection: national case surveillance data during 20 years of the HIV epidemic in the United States .............................. 5
Lessons regarding percutaneous injuries among healthcare providers. .................................. 6
Virus-inhibiting surgical glove to reduce the risk of infection by enveloped viruses .............. 6
Sharps-related injuries in California healthcare facilities: pilot study results from the Sharps Injury Surveillance Registry ................................................................. 6
Evaluation of a safety resheathable winged steel needle for prevention of percutaneous injuries associated with intravascular-access procedures among healthcare workers .... ....... 7
A comprehensive approach to percutaneous injury prevention during phlebotomy: results of a multicenter study, 1993-1995 ................................................................. 7
A comparative user evaluation of three needle-protective devices .......................................... 8
Glove punctures in cardiac surgery ......................................................................................... 8
Needle sticks and adverse outcomes in office-based allergy practices ................................... 8
Ouch! Missing the point of needlestick prevention ................................................................. 9
Nurses and needlesticks, then and now ................................................................................. 9
Report from the Tenth Retrovirus Conference. Postexposure prophylaxis (PEP) .................. 9
When a physician goes beyond needlestick protocol .............................................................. 9
Hepatitis B and C virus—prevalence and prevention in health care workers ......................... 9
Healthcare workers' knowledge of inoculation injuries and glove use ................................... 10
Occupational risk of infection by human immunodeficiency and hepatitis B viruses among health workers in south-eastern Nigeria ................................................................. 10
Recommendations to reduce the risk of occupational HIV transmission ................................ 10
Prevalence of GBV-C infection among dental personnel ......................................................... 10
Occupational risk of blood-borne viruses in healthcare workers ......................................... 11
Blood-borne viral diseases and the surgeon .......................................................................... 11
Vaccination/Vaccination ........................................................................................................... 11
CDC Accepts ACIP's Recommendations for Additional Exclusion Criteria for Smallpox Vaccination Program ................................................................. 11
The use of hepatitis A vaccine in Italy—evidence-based recommendations from an expert panel ................................................................. 11
Risk groups for hepatitis A virus infection ............................................................................. 11
The effectiveness and safety of hepatitis A vaccine: a systematic review
Nature, evolution, and appraisal of adverse events and antibody response associated with the fifth consecutive dose of a five-component acellular pertussis-based combination vaccine
Oculo-respiratory syndrome following influenza vaccination: evidence for occurrence with more than one influenza vaccine
The clinical spectrum of the oculo-respiratory syndrome after influenza vaccination
Seroprevalence of Bordetella pertussis antibodies in Flanders (Belgium)
A phase I study of the safety and immunogenicity of recombinant hepatitis B surface antigen co-administered with an immunostimulatory phosphorothioate oligonucleotide adjuvant
Inpatients at risk of contact vaccinia from immunized health care workers
Airborne transmission/Transmission aérienne
Severe acute respiratory syndrome (SARS): infection control
Control measures for severe acute respiratory syndrome (SARS) in Taiwan
Management of viral haemorrhagic fevers in Switzerland
A nosocomial outbreak of influenza during a period without influenza epidemic
Contact transmission/Transmission de contact
Health-care workers are at risk of Helicobacter pylori infection
Disease transmission, professional to patient/Contamination soignant-soigné
What should be done about hepatitis-B-infected health-care workers?
HIV-infected surgeon: professional responsibility and self interest
Other/autres
Physical hazards/Risques physiques
Ionizing radiations/Rayonnements ionisants
Hand exposure in nuclear medicine workers
Is there an elevated risk of brain cancer among physicians performing interventional radiology procedures?
Cytogenic investigations of serious overexposures to an industrial gamma radiography
Radiat Prot Dosimetry 2002;102(3):201-6
Sister chromatid exchanges in lymphocytes of nuclear medicine physicians
Effectiveness of syringe shieldings using radionuclides in radiation synovectomy
Monitoring of 131I incorporation in nuclear medicine personnel by self accomplished measurements
Evaluation of a high dose to a finger from a 60Co accident
Musculoskeletal disorders/Troubles musculo-squelettiques
Risk factors for musculoskeletal disorders among nursing personnel in Greek hospitals
Disorders of the musculoskeletal system among dentists from the aspect of ergonomics and prophylaxis
Decreasing back stress in home care
Chemical hazards/Risques chimiques
Nitrous oxide use in first-year students at Auckland University
The Permeability of Surgical Gloves to Seven Chemicals Commonly Used in Hospitals
Disabling disturbance of olfaction in a dental technician following exposure to methyl methacrylate
Symptoms and lung function in health care personnel exposed to glutaraldehyde
Development of an HPLC method for simultaneous analysis of five antineoplastic agents
Study on chromosome damage among nurses occupationally exposed to antineoplastic
drugs in an oncology department ................................................................. 22
The relationship between amalgam restorations and mercury levels in male dentists and
nondental health professionals ........................................................................ 22
Dental technician's pneumoconiosis: mineralogical analysis of two cases .......... 22
Airborne endotoxin predicts symptoms in non-mouse-sensitized technicians and research
scientists exposed to laboratory mice ............................................................. 23
Reproductive and developmental hazards in the workplace ................................ 23
Allergy/Allergies .............................................................................................. 23
Benzoyl peroxide as a cause of airborne contact dermatitis in an orthopaedic technician. ................................................................. 23
Occupational allergic contact dermatitis caused by isocyanates ....................... 23
Primary and secondary allergies to laboratory animals ...................................... 24
Allergic contact dermatitis from melphalan and chlorambucil: cross-sensitivity or
cosensitization? .............................................................................................. 24
Allergic contact dermatitis in a dental nurse induced by methacrylates ............ 24
Latex allergy and latex-fruit syndrome among medical workers in Taiwan ....... 24
Prevention of allergy to acrylates and latex in dental personnel ....................... 25
Infection Control/Hygiène .............................................................................. 25
The Challenge of Prion Decontamination ......................................................... 25
Infection control practices in clinical laboratories in Pakistan ......................... 25
Elimination of epidemic methicillin-resistant Staphylococcus aureus from a university
hospital and district institutions, Finland ...................................................... 25
Defects in the surgical glove barrier. Single or double gloves] ............................ 26
Stress – Mental disorders/Stress – psychopathologie ......................................... 26
Nurses' Working Conditions and the Nursing Shortage .................................... 26
Medical staff in emergency situations: severity of patient status predicts stress hormone
reactivity and recovery .................................................................................... 26
Benefits of community meetings in the corporate setting after the suicide of a coworker.
 .................................................................................................................. 27
Workplace stress among psychiatric nurses. Prevalence, distribution, correlates, &
predictors ........................................................................................................ 27
Violence/Violence .......................................................................................... 27
Workplace violence in Alberta and British Columbia hospitals ......................... 27
Perceptions and experiences of nurses in Turkey about verbal abuse in clinical settings 28
Assault of long-term care personnel ............................................................... 28
Other/Autre .................................................................................................... 28
Miscellaneous/Divers .................................................................................... 28
Ambulance Crash-Related Injuries Among Emergency Medical Services Workers—
United States, 1991-2002 ........................................................................ 28
Is the life expectancy of anesthesiologists decreased? ..................................... 29
Disability in medical students and doctors ..................................................... 29
Occupational injuries to NHS staff in England increase by a quarter ............. 29
How much are anesthesiologists exposed to electromagnetic fields in operating rooms? 29
[Questionnaire among health personnel on early retirement. Four out of five consider
their illness an occupational injury] .................................................................. 29
Work factors as predictors of sickness absence: a three month prospective study of nurses'
(aides) ........................................................................................................... 29
Timed bright-light exposure and complaints related to shift work among women 30
Evidence Based Medicine ............................................................................. 30
Accidental infection of laboratory worker with vaccinia.
Emerg Infect Dis [serial online] 2003 Jun [date cited].
http://www.cdc.gov/ncidod/EID/vol9no6/02-0732.htm
We report the accidental needlestick inoculation of a laboratory worker with vaccinia virus. Although the patient had previously been vaccinated against smallpox, severe lesions appeared on the fingers. Western blot and polymerase chain reaction–restriction fragment length polymorphism were used to analyze the virus recovered from the lesions. The vaccinia virus–specific immunoglobulin G levels were measured by enzyme-linked immunosorbent assay. Our study supports the need for vaccination for laboratory workers that routinely handle orthopoxvirus.

Potential exposure to hepatitis C virus through accidental blood contact in interventional radiology.

PURPOSE: To quantify the prevalence of accidental blood exposure (ABE) among interventional radiologists and contrast that with the prevalence of patients with hepatitis C virus (HCV) undergoing interventional radiology procedures. MATERIALS AND METHODS: A multicenter epidemiologic study was conducted in radiology wards in France. The risk of ABE to radiologists was assessed based on personal interviews that determined the frequency and type of ABE and the use of standard protective barriers. Patients who underwent invasive procedures underwent prospective sampling for HCV serologic analysis. HCV viremia was measured in patients who tested positive for HCV. RESULTS: Of the 77 radiologists who participated in 11 interventional radiology wards, 44% reported at least one incident of mucous membrane blood exposure and 52% reported at least one percutaneous injury since the beginning of their occupational activity. Compliance with standard precautions was poor, especially for the use of protective clothes and safety material. Overall, 91 of 944 treated patients (9.7%) tested positive for HCV during the study period, of whom 90.1% had positive viremia results, demonstrating a high potential for contamination through blood contacts. CONCLUSIONS: The probability of HCV transmission from contact with contaminated blood after percutaneous injury ranged from 0.013 to 0.030; the high frequency of accidental blood exposure and high percentage of patients with HCV could generate a risk of exposure to HCV for radiologists who perform invasive procedures with frequent blood contact. The need to reinforce compliance with standard hygiene precautions is becoming crucial for medical and technical personnel working in these wards.

Hepatitis C virus risk in the interventional radiology environment.
J Vasc Interv Radiol 2003 Feb;14(2 Pt 1):129-31
Marx MV.

Occupationally acquired human immunodeficiency virus (HIV) infection: national case surveillance data during 20 years of the HIV epidemic in the United States.
Infect Control Hosp Epidemiol 2003 Feb;24(2):86-96
Do AN, Ciesielski CA, Metler RP, Hammett TA, Li J, Fleming PL.
OBJECTIVE: To characterize occupationally acquired human immunodeficiency virus (HIV) infection detected through case surveillance efforts in the United States. DESIGN: National surveillance systems, based on voluntary case reporting. SETTING: Healthcare or laboratory (clinical or research) settings. PATIENTS: Healthcare workers, defined as individuals employed in healthcare or laboratory settings (including students and trainees), who are infected with HIV. METHODS: Review of data reported through December 2001 in the HIV/AIDS Reporting System and the National Surveillance for Occupationally Acquired HIV Infection. RESULTS: Of 57 healthcare workers with documented occupationally acquired HIV infection, most (86%) were exposed to blood, and most (88%) had percutaneous injuries. The circumstances varied among 51 percutaneous injuries, with the largest proportion (41%) occurring after a procedure, 35% occurring during a procedure, and 20% occurring during disposal of sharp objects. Unexpected circumstances difficult to anticipate during or after procedures accounted for 20% of all injuries. Of 55 known source patients, most (69%) had acquired immunodeficiency syndrome (AIDS) at the time of occupational exposure, but some (11%) had asymptomatic HIV infection. Eight (14%) of the healthcare workers were infected.
despite receiving postexposure prophylaxis (PEP). CONCLUSIONS: Prevention strategies for occupationally acquired HIV infection should continue to emphasize avoiding blood exposures. Healthcare workers should be educated about both the benefits and the limitations of PEP, which does not always prevent HIV infection following an exposure. Technologic advances (eg, safety-engineered devices) may further enhance safety in the healthcare workplace.

Lessons regarding percutaneous injuries among healthcare providers.
Infect Control Hosp Epidemiol 2003 Feb;24(2):82-5
Doebbeling BN.

Virus-inhibiting surgical glove to reduce the risk of infection by enveloped viruses.
Needle puncture and other accidents that occur during surgery and other procedures may lead to viral infections of medical personnel, notably by hepatitis C (HCV) and human immunodeficiency virus (HIV), now that hepatitis B can be prevented by vaccination. A new surgical glove called G-VIR, which contains a disinfecting agent for enveloped viruses, has been developed. Herpes simplex type 1 (HSV) was used as a standard enveloped virus in both in vitro and in vivo tests of the virucidal capacity of the glove. Bovine viral diarrhea virus (BVDV) and feline immunodeficiency virus (FIV) were used as models for HCV and HIV, respectively. For in vitro study, a contaminated needle was passed through a glove and residual virus was titrated; for in vivo studies, animals were stuck with a contaminated needle through a glove. Despite variation in virus enumeration inherent in the puncture technique, statistical evaluation showed that infection was reproducibly and substantially reduced by passage through the virucidal layer. For BVDV, the amount of virus passing through the virucidal glove was reduced in 82% of pairwise comparisons with control gloves that lacked the virucidal agent; when plaque counts were adjusted to a common dilution, the median count for the virucidal glove was on the average reduced >10-fold. In experiments in which the proportion of wells infected with FIV was measured, the ratio of TCID(50) values (control glove to G-VIR) was >15, and probably much higher. For HSV, the amount of virus passing through the virucidal glove was reduced in 81% of comparisons with control gloves; the median of adjusted plaque counts was reduced on the average approximately eightfold or ninefold. In vivo tests with FIV and HSV in cats and mice, respectively, found smaller percentage reductions in infection than the in vitro tests but confirmed the virucidal effect of the gloves. Copyright 2003 Wiley-Liss, Inc.

Sharps-related injuries in California healthcare facilities: pilot study results from the Sharps Injury Surveillance Registry.
Infect Control Hosp Epidemiol 2003 Feb;24(2):113-21
Gillen M, McNary J, Lewis J, Davis M, Boyd A, Schuller M, Curran C, Young CA, Cone J.
BACKGROUND AND OBJECTIVES: In 1998, the California Department of Health Services invited all healthcare facilities in California (n = 2,532) to participate in a statewide, voluntary sharps injury surveillance project. The objectives were to determine whether a low-cost sharps registry could be established and maintained, and to evaluate the circumstances surrounding sharps injuries in California. RESULTS: Approximately 450 facilities responded and reported a total of 1,940 sharps-related injuries from January 1998 through January 2000.
Injuries occurred in a variety of healthcare workers (80 different job titles). Nurses sustained the highest number of injuries (n = 658). In hospital settings (n = 1,780), approximately 20% of the injuries were associated with drawing venous blood, injections, or assisting with a procedure such as suturing. As expected, injuries were caused by tasks conventionally related to specific job classifications. The overall results approximate those reported by the Centers for Disease Control and Prevention's National Surveillance System for Health Care Workers and the University of Virginia's Exposure Prevention Information Network. CONCLUSION: These data further support findings from previous studies documenting the complex and persistent nature of sharps-related injuries in healthcare workers. In the future, mandated reporting using standardized forms and consistent application of decision rules would facilitate a more thorough analysis of injury events.

**Evaluation of a safety resheathable winged steel needle for prevention of percutaneous injuries associated with intravascular-access procedures among healthcare workers.**

Infect Control Hosp Epidemiol 2003 Feb;24(2):105-12
Comment in Infect Control Hosp Epidemiol. 2003 Feb;24(2):82-5.

OBJECTIVE: To compare the percutaneous injury rate associated with a standard versus a safety resheathable winged steel (butterfly) needle. DESIGN: Before-after trial of winged steel needle injuries during a 33-month period (19-month baseline, 3-month training, and 11-month study intervention), followed by a 31-month poststudy period. SETTING: A 1,190-bed acute care referral hospital with inpatient and outpatient services in New York City. PARTICIPANTS: All healthcare workers performing intravascular-access procedures with winged steel needles. INTERVENTION: Safety resheathable winged steel needle. RESULTS: The injury rate associated with winged steel needles declined from 13.41 to 6.41 per 100,000 (relative risk [RR], 0.48; 95% confidence interval [CI95], 0.31 to 0.73) following implementation of the safety device. Injuries occurring during or after disposal were reduced most substantially (RR, 0.15; CI95, 0.06 to 0.43). Safety winged steel needle injuries occurred most often before activation of the safety mechanism was appropriate (39%); 32% were due to the user choosing not to activate the device, 21% occurred during activation, and 4% were due to improper activation. Preference for the safety winged steel needle over the standard device was 63%. The safety feature was activated in 83% of the samples examined during audits of disposal containers. Following completion of the study, the safety winged steel needle injury rate (7.29 per 100,000) did not differ significantly from the winged steel needle injury rate during the study period. CONCLUSION: Implementation of a safety resheathable winged steel needle substantially reduced injuries among healthcare workers performing vascular-access procedures. The residual risk of injury associated with this device can be reduced further with increased compliance with proper activation procedures.

**A comprehensive approach to percutaneous injury prevention during phlebotomy: results of a multicenter study, 1993-1995.**

Infect Control Hosp Epidemiol 2003 Feb;24(2):97-104
Comment in Infect Control Hosp Epidemiol. 2003 Feb;24(2):82-5.

OBJECTIVE: To examine a comprehensive approach for preventing percutaneous injuries associated with phlebotomy procedures. DESIGN AND SETTING: From 1993 through 1995,
personnel at 10 university-affiliated hospitals enhanced surveillance and assessed underreporting of percutaneous injuries; selected, implemented, and evaluated the efficacy of phlebotomy devices with safety features (ie, engineered sharps injury prevention devices [ESIPDs]); and assessed healthcare worker satisfaction with ESIPDs. Investigators also evaluated the preventability of a subset of percutaneous injuries and conducted an audit of sharps disposal containers to quantify activation rates for devices with safety features.

RESULTS: The three selected phlebotomy devices with safety features reduced percutaneous injury rates compared with conventional devices. Activation rates varied according to ease of use, healthcare worker preference for ESIPDs, perceived "patient adverse events," and device-specific training. CONCLUSIONS: Device-specific features and healthcare worker training and involvement in the selection of ESIPDs affect the activation rates for ESIPDs and therefore their efficacy. The implementation of ESIPDs is a useful measure in a comprehensive program to reduce percutaneous injuries associated with phlebotomy procedures.

**A comparative user evaluation of three needle-protective devices.**

Br J Nurs 2003 Apr 24-May 7;12(8):470-4
Adams D, Elliott TS.
Needlestick injuries (NSI) can result in healthcare workers being exposed to blood-borne viruses. Between 1997 and 2002, three healthcare workers in the UK have seroconverted to hepatitis C and one to human immunodeficiency virus (Public Health Laboratory Service (PHLS), 2003). Experience both in the UK and the USA suggests that even robust educational strategies may be insufficient to reduce the number of occupationally acquired NSI (Jagger et al, 1988). Needle-protective devices have now become more widely available and several studies have demonstrated an associated reduced risk of NSK. It is, however, essential that the devices are appropriately evaluated before introduction to ensure that they meet user requirements, do not interfere with function and reduce NSI risk. This article describes an evaluation programme carried out at the University Hospital Birmingham, UK. The programme focused on three key areas: safety, usability and compatibility. Results demonstrated that nurses rapidly adapt their practices to use the new safety devices and the study highlighted key education requirements that would be required before implementation. In addition, without this evaluation, it would not have been identified that attachment of the safety needles to the syringes requires a push-and-twist method or the use of LuerLok syringes to prevent detachment on activation of the safety procedure.

**Glove punctures in cardiac surgery.**

Ann Thorac Surg 2003 May;75(5):1680-1; author reply 1681
Pate JW.

**Needle sticks and adverse outcomes in office-based allergy practices.**

Ann Allergy Asthma Immunol 2003 Apr;90(4):389-92
Kanter LJ, Siegel C.

BACKGROUND: In 1984 the first case of needle stick transmitted human immunodeficiency virus was reported. In 1986 Occupational Safety and Health Administration was petitioned by various unions representing health care employees to develop a standard which protects employees from occupational exposure to blood-borne diseases. Congress passed the Needle Stick Safety and Prevention Act. This specifies that "safer medical devices, such as sharps with engineered sharps injury protections and needle-less systems" constitute an effective
engineering control, and must be used where feasible. This has been mandated in California as part of the labor code. Blood-borne pathogens of concern in needle stick injuries are human immunodeficiency virus, hepatitis virus B, and hepatitis virus C. OBJECTIVE: The objective of this study was to determine the incidence of accidental needlesticks (ANSs) and disease transmission in the allergy setting. METHODS: A retrospective survey of most California allergy practices and a few large multi-physician allergy practices. We received and used 121 of 400 surveys. RESULTS: Analysis of the survey data showed an overall incidence of 45 ANSs with 7.026 million 26-/27-gauge needles reported. There was zero rate of disease transmission; 6.41 ANSs per million compares favorably with an estimated 267 ANSs per million in the general medical setting. CONCLUSIONS: The rate of ANSs in the allergist's office is 2% that of general medical ANSs. The current "safety" needles have no proven effectiveness. There is no reported disease transmission in the allergist's office setting using existent methods. This solution needs further study before there is generalized implementation of the engineering devices of no proven effectiveness that may in fact increase ANSs.

Ouch! Missing the point of needlestick prevention.
Ann Allergy Asthma Immunol 2003 Apr;90(4):367-8
Schuman AJ.

Nurses and needlesticks, then and now.
Nursing 2003 Apr;33(4):22
Perry J, Jagger J, Parker G.

Report from the Tenth Retrovirus Conference. Postexposure prophylaxis (PEP).
del Rio C.

When a physician goes beyond needlestick protocol.
Weber LJ, Bissell MG.

Hepatitis B and C virus--prevalence and prevention in health care workers.
Trop Gastroenterol 2002 Jul-Sep;23(3):125-6
Duseja A, Arora L, Masih B, Singh H, Gupta A, Behera D, Chawla YK, Dhiman RK.
BACKGROUND: Hepatitis B and C viruses are important causes of liver related morbidity and mortality. We aimed at determining the presence of hepatitis B and C virus infections in the health care workers (HCWs) and their compliance for the HBV vaccination. METHODS: Three thousand five hundred and fifty six health care workers were screened for HBsAg and 115 for anti-HCV by ELISA. HBsAg negative individual were offered HBV vaccination and record of their compliance was kept. Anti-HBs titer were determined one month after 2nd or 3rd dose of vaccine in 273 subjects. RESULTS: Out of 3556 health care workers, 61 (1.7%) were found to be positive for HBsAg. One out of 115 HCWs (0.87%) was found to be positive for anti-HCV. Fifteen percent of HCWs received only one dose, 26% received two doses 59% received three doses and 2.5% also received the booster dose of the HBV vaccine. All those tested had anti-HBs titer more than 10 mUI/ml. CONCLUSION: In HCWs, HBsAg and anti-HCV prevalence was found to be 1.7% and 0.87% respectively. HCWs in our
hospital, despite the awareness on HBV and HCV infection are noncompliant for HBV vaccination.

**Healthcare workers' knowledge of inoculation injuries and glove use.**


Trim JC, Adams D, Elliott TS.

Healthcare workers' (HCWs') occupational risk of exposure to blood-borne pathogens has been well documented. Subsequent educational programmes, awareness campaigns and policy implementation made limited impact on HCWs' level of knowledge of these risks and compliance with universal precautions. Two hundred HCWs completed a questionnaire to evaluate their level of knowledge. Results demonstrated that despite a comprehensive educational programme for nurses and training for medical staff, knowledge of inoculation injuries and associated issues remained inadequate. Indeed, policies and procedures were not followed. Furthermore, gloves were not routinely worn in the clinical setting. Educational programmes were essential to inform HCWs of occupational risk of exposure to blood-borne pathogens and guide practice following an inoculation injury. However, efficacy of such programmes must be reviewed, alternative strategies evaluated, and the cause of HCWs' limited knowledge determined.

**Occupational risk of infection by human immunodeficiency and hepatitis B viruses among health workers in south-eastern Nigeria.**


Ansa VO, Udoma EJ, Umoh MS, Anah MU.

OBJECTIVE: To assess the occupational risk of infection by human immunodeficiency virus (HIV) as well as hepatitis B virus (HBV) among healthcare workers in south-eastern Nigeria. DESIGN: Cross-sectional study. SETTING: Three tertiary health institutions in south-eastern Nigeria. SUBJECTS: Doctors, nurses, laboratory staff and cleaners. MAIN OUTCOME MEASURES: Observation of the availability and use of protective equipment and materials in the various departments of the hospitals. RESULTS: Materials and equipments needed for protective and hygienic practices (adequate water supply, protective clothing and availability of disinfectants) were inadequate in all hospitals. Where available, they were found to be inconsistently used. Health workers in the three institutions were thus constantly exposed unnecessarily to blood and other body fluids which might be potentially infectious as well as injury from used sharps. CONCLUSION: The risk of acquiring HIV and HBV infections by health workers in this region of Nigeria in the course of performing their duties is therefore still apparently high. Though distinct viruses, they share similar mode of transmission and risk factors. Use of personal protective equipment and adoption of standard hygienic practices among health workers must be encouraged. Supply of protective materials and equipment should be greatly improved. It is recommended that reduction of occupational risks among health workers using this approach should form part of control strategies for both infections in the country.

**Recommendations to reduce the risk of occupational HIV transmission.**

N J Med  2003 Jan;100(1-2):28-34; quiz 34-6

Paul SM.

**Prevalence of GBV-C infection among dental personnel.**


Healthcare workers who carry out exposure-prone procedures are theoretically at increased risk of acquiring blood-borne virus infections. GB virus C (GBV-C) is a recently described blood-borne virus that is related distantly to hepatitis C virus. The occupational risk of GBV-C infection to healthcare workers is unknown. This study collected detailed occupational and personal risk data in parallel with a blood specimen, to establish the prevalence and determinants of GBV-C infection among dental healthcare workers. The presence of GBV-C antibodies was detected using commercially available ELISA; GBV-C RNA was detected by nested PCR using primers from the conserved 5' noncoding region. The overall prevalence of GBV-C antibodies among the study population was 11.1% (98/880, 95% confidence interval [CI], 9.1-13.4%) and 4.6% were positive for GBV-C RNA (46/879, 95% CI, 2.5-5.1%), resulting in a cumulative prevalence of 15.7%. These figures are similar to those described in other populations. There was no significant difference in lifetime exposure to GBV-C between dentists (17.7%) and dental nurses/hygienists (14.3%). Significantly more dental nurses/hygienists aged 16-30 years had been exposed to GBV-C compared to dentists of the same age (chi(2) = 13.75; P < 0.001). Conversely, significantly more dentists 46 years or older had evidence of exposure to GBV-C compared to dental nurses/hygienists (chi(2) = 6.79; P = 0.009). The high prevalence of GBV-C infection did not seem to be related to past parenteral exposure, and the data suggest that sexual transmission, rather than occupational transmission, was a more important route for GBV-C infection among this population.

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**Occupational risk of blood-borne viruses in healthcare workers.**
Infect Control Hosp Epidemiol 2002 Dec;23(12):712
Van Laer F, Roelandt R, Coenen E.

**Blood-borne viral diseases and the surgeon.**
Jaffray CE, Flint LM.

**Vaccination/Vaccination**

**CDC Accepts ACIP's Recommendations for Additional Exclusion Criteria for Smallpox Vaccination Program**
http://www.cdc.gov/od/oc/media/pressrel/r030331.htm

**The use of hepatitis A vaccine in Italy—evidence-based recommendations from an expert panel**
Alfonso Mele and Tom Jefferson
Vaccine 2003;21:2223

**Risk groups for hepatitis A virus infection**
Elisabetta Franco, Cristina Giambi, Rita Ialacci, Rosa C. Coppola and Alessandro R. Zanetti
Vaccine 2003;21:2224-2233
We report the conduct and results of a systematic search for evidence of risk of infection with hepatitis A virus (HAV) among blood transfusion recipients, travellers, the military, healthcare workers, sewage workers, foodhandlers, day care assistants, institutionalised subjects, blood transfusion recipients, drug addicts, homosexuals, prisoners and other risk
groups such a liver transplantees. We report our recommendations for the use of the HAV vaccine in these groups.

**The effectiveness and safety of hepatitis A vaccine: a systematic review**

Vittorio Demicheli and Donatella Tiberti

Vaccine 2003;21:2242-2245

We report on the conduct of a systematic review to assess the efficacy and the safety of hepatitis A vaccines in adults and children. We identified, retrieved, and assessed all trials evaluating the effects of hepatitis A vaccines on prevention of cases of hepatitis A, death from hepatitis A, and assessing nature and frequency of adverse events. We included eight randomised trials, four containing efficacy outcomes, three containing only safety outcomes and a single study containing efficacy and adverse events outcomes. Combined inactivated vaccine effectiveness was 86% (95% CI: 63–95%). Combined attenuated vaccine effectiveness was 95% (95% CI: 81–99%). Inactivated vaccine effectiveness in the prevention of HAV secondary cases, compared to non-intervention was 82% (95% CI: 23–96%). Safety profile of vaccines was similar to that of their comparators. Despite poor design and reporting of trials, we found convincing evidence of the effectiveness and safety of inactivated HAV vaccines.

**Nature, evolution, and appraisal of adverse events and antibody response associated with the fifth consecutive dose of a five-component acellular pertussis-based combination vaccine**

Scott A. Halperin, David Scheifele, Elaine Mills, Roland Guasparini, Garry Humphreys, Luis Barreto and Bruce Smith

Vaccine 2003;21:2298-2306

We performed a randomized, controlled clinical trial to characterize the evolution of the adverse events associated with the fifth consecutive dose of an acellular pertussis vaccine, and to assess the level of discomfort associated with the injection and the attitude of parents concerning these events. A total of 505 children who had received either four doses of acellular pertussis vaccine or whole-cell pertussis vaccine were given a fifth dose of one of the two vaccines. Adverse events were monitored by parents and collected by telephone or home visit at 4, 8, 12, 24, 48 and 72 h, and 7 and 28 days after immunization. Rates of injection site redness 50 mm were similar in recipients of five doses of acellular pertussis vaccine (32.8%) or five doses of whole-cell pertussis vaccine (43.3%). Injection site swelling, tenderness, and decreased arm movement were all more frequent in children who received five doses of whole-cell pertussis vaccine. Antibody levels before or after immunization did not predict those children who had increased injection site reactions. The children rated the injection site reactions as significantly more severe after five consecutive doses of whole-cell vaccine. Parent satisfaction was higher after the acellular vaccine. We conclude that a fifth consecutive dose of a whole-cell pertussis vaccine is associated with high rates of tender redness and swelling at the injection site, in contrast to a fifth consecutive dose of an acellular pertussis vaccine which is associated with high rates of non-painful redness. However, parents will still need to be aware of the high rates of injection site reactions expected after a fifth dose of acellular pertussis vaccine.

**Oculo-respiratory syndrome following influenza vaccination: evidence for occurrence with more than one influenza vaccine**

Gaston De Serres, Nicole Boulianne, Bernard Duval, Louis Rochette, Jean Luc Grenier, Renée Roussel, Danièle Donaldson, Michèle Tremblay, Eveline Toth, Suzanne Ménard et al.
We assessed the occurrence of oculo-respiratory syndrome (ORS) following two influenza vaccines: Fluviral® (Shire Biologics) or Vaxigrip® (Aventis Pasteur). ORS was identified amongst 5.3 and 4.6% of recipients, respectively (P=0.54). With both vaccines, the risk of ORS was much greater in individuals who had ORS the previous year (2000) than in those without such history. In multivariate analysis, the odds ratio for ORS for patients with a prior history of ORS varied between 9.4 and 9.6 (P<0.001) whereas that comparing Fluviral® and Vaxigrip® varied between 1.5 and 1.9 (P=0.02–0.05). ORS is an adverse event that is present with more than one vaccine and may be present with any influenza vaccines to a greater or lesser degree.

The clinical spectrum of the oculo-respiratory syndrome after influenza vaccination

Gaston De Serres, Jean Luc Grenier, Eveline Toth, Suzanne Ménard, Renée Roussel, Michèle Tremblay, Monique Douville Fradet, Monique Landry, Yves Robert and Danuta M. Skowronski

ORS, a new influenza vaccine associated adverse event, was identified in 2000. The 2000 case definition (ORS-2000) required the presence of bilateral red eyes or respiratory symptoms or facial edema occurring between 2 and 24 h following immunization and lasting 48 h. We compared clinical manifestations of cases outside these timelines. Cases were classified as ORS-early (onset <2 h after immunization), ORS-late (onset >24 h), ORS-persistors (duration >48 h).

Overall, the distribution of symptoms was similar between ORS-2000 and other case categories. ORS-early and ORS-late had less ocular involvement, ORS-late and ORS-persistors had more cough and sore throat, ORS-early had more facial edema and ORS-late had less. In comparison to ORS-2000, ORS-early were younger whereas ORS-persistors and ORS-late were significantly older suggesting that clinical manifestations of ORS vary with age with a more rapid induction of symptoms in younger individuals and longer duration for older ones.

Seroprevalence of Bordetella pertussis antibodies in Flanders (Belgium)

Marie Van der Wielen, Pierre Van Damme, Koen Van Herck, Susanna Schlegel-Haueter and Claire-Anne Siegrist

To determine age-dependent pertussis immune response in the Flemish population, antibody levels to pertactin (PRN), pertussis toxin (PT) and filamentous hemagglutinin (FHA) were measured in serum samples from 1622 healthy 1–100-year-old subjects. For anti-PRN and anti-PT antibodies, peaks in GMTs were seen in infancy and again in the 10–15-year age group. After age of 20 years, anti-PRN GMT declined rapidly over a decade, followed by a slower decline. Anti-FHA GMT tended to rather increase progressively with age. These data confirm waning of vaccine-induced antibody levels and suggest pertussis resurgence during adolescence and young adulthood. These results support a pertussis booster vaccination policy for adolescents and adults.
A phase I study of the safety and immunogenicity of recombinant hepatitis B surface antigen co-administered with an immunostimulatory phosphorothioate oligonucleotide adjuvant

Scott A. Halperin, Gary Van Nest, Bruce Smith, Simin Abtahi, Heather Whiley and Joseph J. Eiden

Vaccine 2003;21:2461-2467

Certain oligodeoxynucleotides with CpG motifs provide enhanced immune response to co-delivered antigens. We performed a phase I, observer-blinded, randomized study in healthy anti-hepatitis B surface antigen (anti-HBsAg) antibody negative adults to explore safety and immunogenicity of co-injection of recombinant HBsAg combined with an immunostimulatory DNA sequence (ISS) 1018 ISS. Four ISS dosage groups (N=12 per group) were used: 300, 650, 1000 or 3000 µg. For each group, two controls received 20 µg HBsAg alone, two controls received ISS alone, and eight subjects received ISS+20 µg HBsAg. Subjects received two doses 8 weeks apart. Injection site reactions (tenderness and pain on limb movement) were more frequent at higher ISS+HBsAg doses but were mainly mild and of short duration. Higher anti-HBsAg antibody levels were associated with higher ISS doses. Four weeks after the first dose, a seroprotective titer (10 mIU/ml) was noted for 0, 25, 75, and 87.5% of subjects by increasing ISS dose group (P<0.05) for those who received ISS+HBsAg; 1 month after the second dose this increased to 62.5, 100, 100, and 100%, respectively. Geometric mean anti-HBsAg antibody levels by increasing ISS+HBsAg dose were 1.22, 5.78, 24.75, and 206.5 mIU/ml after the first dose and 65.37, 877.6, 1545, and 3045 mIU/ml after the second dose. We conclude that 1018 ISS+HBsAg was well tolerated and immunogenic in this phase I study in healthy adults and may offer the potential for enhancement of hepatitis B virus (HBV) immunization and protection after one or two doses or in individuals who fail to respond to the standard vaccine regimen.

Inpatients at risk of contact vaccinia from immunized health care workers.

JAMA 2003 Mar 26;289(12):1512-3

Smith PF, Chang HG, Sepkowitz KA.

Airborne transmission/Transmission aérienne

Severe acute respiratory syndrome (SARS): infection control

Thomas Sing Tao Li, Thomas A Buckley, Florence HY Yap, Joseph JY Sung, Gavin M Joynt Lancet Volume 361, Number 9366 19 April 2003
http://www.thelancet.com/journal/vol361/iss9366/full/llan.361.9366.correspondence.25306.1

Control measures for severe acute respiratory syndrome (SARS) in Taiwan.

http://www.cdc.gov/ncidod/EID/vol9no6/03-0283.htm

Management of viral haemorrhagic fevers in Switzerland.

Euro Surveill 2002 Mar;7(3):42-4
Hugonnet S, Sax H, Pittet D.

Over the past years, there have been very few imported cases of VHF in Switzerland: one confirmed and four suspected cases of Ebola fever in Basel in 1994, two suspected cases of Ebola and Lassa fevers in Lausanne in 2000, and in the same year, six suspected cases of Lassa fever in Geneva. Given the considerable diversity in the management of patients with
suspected or confirmed VHF, national guidelines are needed, as well as the establishment of a national reference centre.

**A nosocomial outbreak of influenza during a period without influenza epidemic**

Eur Respir J 2003 Feb;21(2):303-7

The objective of this study was to describe a nosocomial outbreak of influenza during a period without influenza epidemic activity in the community. Outbreak investigation was carried out in an infectious diseases ward of a tertiary hospital. Presence of two or more of the following symptoms were used to define influenza: cough, sore throat, myalgia and fever. Epidemiological survey, direct immunofluorescence, viral culture, polymerase chain reaction, haemagglutination-inhibition test in throat swabs and serology for respiratory viruses were performed. Twenty-nine of 57 healthcare workers (HCW) (51%) and eight of 23 hospitalised patients (34%) fulfilled the case definition. Sixteen HCW (55%) and three inpatients (37%) had a definitive diagnosis of influenza A virus infection (subtype H1N1). Among the symptomatic HCW, 93% had not been vaccinated against influenza that season. Affected inpatients were isolated and admissions in the ward were cancelled for 2 weeks. Symptomatic HCW were sent home for 1 week. On the seventeenth day of the outbreak the last case was declared. The incidence of cases in this outbreak of influenza, which occurred during a period without influenza epidemic activity in the community, was notably high. Epidemiological data suggest transmission from healthcare workers to inpatients. Most healthcare workers were not vaccinated against influenza. Vaccination programmes should be reinforced among healthcare workers.

**Contact transmission/Transmission de contact**

**Health-care workers are at risk of Helicobacter pylori infection.**

J Gastroenterol 2002;37(12):1092-3
Morizane T.

**Helicobacter pylori infection in hospital workers over a 5-year period: correlation with demographic and clinical parameters.**

J Gastroenterol 2002;37(12):1005-13

BACKGROUND: We aimed to determine whether any of various groups of medical and nonmedical staff in a large acute care hospital were at increased risk of acquiring Helicobacter pylori infection over a 5-year period, and we also aimed to identify risk factors or symptoms related to H. pylori positivity and seroconversion. METHODS: A total number of 437 subjects, aged 36.8 +/- 7.7 years (range, 23-60 years)-employees of our hospital-were tested by immunoassay for serum IgG antibodies against H. pylori. Subjects were assigned to four main groups: (I) nursing staff (n = 249; aged 34.7 +/- 7 years); (II) administrative and technical staff (n = 127; aged 39.2 +/- 8.1 years); (III) medical staff (n = 31; aged 42.4 +/- 4.9 years); and (IV) paramedical staff (blood donor department) (n = 30; aged 37.6 +/- 8.5 years). Differences in age and educational level between these four groups were statistically highly significant (P < 0.0001). Each subject completed a questionnaire containing several
clinical and demographic parameters. The same cohort of individuals was tested 5 years later.

RESULTS: The overall seroprevalence of H. pylori infection was 45.5%, and in each group (I, II, III, and IV) being 48.6%, 44.1%, 41.9%, and 30% respectively. Logistic regression analysis revealed that the risk of infection by H. pylori was significantly higher in group I compared with group II (odds ratio [OR], 1.91; 95% confidence interval [CI], 1.04-3.52; P = 0.037). The H. pylori positivity increased with age: 40.6% for those aged 23-40 years and 57.5% for those aged 41-60 years (P = 0.001). The level of education was inversely associated with H. pylori infection (P = 0.001). During the 5-year observation, 59 of 238 (24.8%) subjects initially negative for H. pylori infection became positive, thus giving an annual seroconversion rate of 4.95%. Logistic regression analysis revealed that the seroconversion rate was significantly higher in group I compared with group II (28.1% vs 21.1%; OR, 2.34; 95% CI, 1.08-5.07; P = 0.03). The rate of seroconversion was higher in subjects aged 35-55 years compared with subjects aged 23-34 years (32% vs 17.5%; P= 0.009). Subjects who were positive for H. pylori infection in both examinations had a higher percentage of heartburn (P = 0.029), regurgitation (P = 0.023), and nausea (P= 0.037) compared with those who were negative in both examinations. Differences between those who were continuously negative for H. pylori infection and those who seroconverted during the observation period were not significant. CONCLUSIONS: In this longitudinal study of workers in a large acute care hospital in Greece it was found that nursing staff had a significantly higher risk of infection compared with administrative and technical staff. Age was significantly positively related both to H. pylori infection and to seroconversion. The level of education was strongly related to the prevalence, but not to the incidence of H. pylori infection. The presence of infection over the time was associated with a higher percentage of heartburn, regurgitation, and nausea compared with subjects who were continuously negative for H. pylori infection.

**Disease transmission, professionnal to patient/Contamination soignant-soigné**

**What should be done about hepatitis-B-infected health-care workers?**
Carman WF, Cameron SO.

**HIV-infected surgeon: professional responsibility and self interest.**
Jones JW, Richman BW, McCullough LB.

**Other/autres**

**Physical hazards/Risques physiques**

**Ionizing radiation/Rayonnements ionisants**

**Hand exposure in nuclear medicine workers.**
Radiat Prot Dosimetry 2002;101(1-4):229-32
Chruscielewski W, Olszewski J, Jankowski J, Cygan M.

As a result of the gamma radiation emitted by radioactive elements (e.g. 99mTc and 131I) used in nuclear medicine laboratories for diagnostic and therapeutic purposes, nuclear medicine workers are exposed to whole-body doses. These doses are usually measured by using individual film dosimeters. Lead or lead glass shields used during the handling of radioisotopes minimise the whole-body doses received. Nevertheless, part of the job has to be performed manually, hence the hands are more exposed to radiation. This paper presents the
results of measuring the equivalent dose to the hands of workers employed in five selected nuclear medicine laboratories where technetium and iodine radioisotopes are in common use. Sixty workers, including physicians, nurses, radiopharmacists and technicians, were included in the study. Doses were measured at 1 month intervals. The study indicated that, in some instances, the danger of radiation dose to the hand may be significant. Monthly doses exceeded 50 mSv, which may suggest that an annual dose may be higher than 500 mSv.

Is there an elevated risk of brain cancer among physicians performing interventional radiology procedures?

Radiat Prot Dosimetry 2002;102(2):99-100
Wenzl T, McDonald JC.

Cytogenic investigations of serious overexposures to an industrial gamma radiography Radiat Prot Dosimetry 2002;102(3):201-6
Sevan'kaev AV, Lloyd DC, Edwards AA, Moquet JE, Nugis VY, Mikhailova GM, Potetnya OI, Khvostunov IK, Guskova AK, Baranov AE, Nadejina NM.
This paper describes the sequence of events, medical aspects and dose estimations for two radiographers and their driver who were seriously exposed to an iridium-192 industrial radiography source that became detached from its wind-out cable. The men came to medical attention about 1 month later by which time all three were severely leucopenic and one had skin burns on both hands. Doses were estimated by (i) physics calculations combined with their accounts of the event. (ii) the levels of depression of their blood neutrophils, (iii) electron spin resonance on tooth enamel and (iv) blood lymphocyte chromosomal analyses by the conventional dicentric and the fluorescence in situ hybridisation methods. Intercomparison of these methods for estimating doses showed a good level of agreement. In brief, the averaged whole body dose for the most seriously exposed man was about 2.5-3.0 Gy and for the others it was 1.0-2.0 Gy.

Sister chromatid exchanges in lymphocytes of nuclear medicine physicians.

Mutat Res 2003 Mar 3;535(2):205-13
Bozkurt G, Yuksel M, Karabogaz G, Sut N, Savran FO, Palanduz S, Yigitbasi ON, Algunes C.
OBJECTIVE: The aim of this study was to assess whether occupational exposure to chronic, low doses of Iodine 131 (I-131) and Technetium 99m (Tc-99m) may lead to genotoxicity. Medical personnel occupied in nuclear medicine departments are occupationally exposed to low doses of I-131 and Tc-99m. The determination of the frequency of sister chromatid exchanges (SCEs) and of cells with a high frequency of SCEs (HFC) is considered to be a sensitive indicator for detecting genotoxic potential of mutagenic and carcinogenic agents. Therefore, we examined peripheral lymphocytes from nuclear medicine physicians for the presence of both SCE and HFC. METHODS: Sixteen exposed nuclear medicine physicians (non-smokers) were compared to 16 physicians (non-smokers) who had not been exposed to chemical or physical mutagens in their usual working environment at the same hospital. RESULTS: A statistically significant difference was found between SCE frequencies and HFC percentages measured in lymphocytes from the exposed and control groups. CONCLUSIONS: The present observation on the effect of chronic low doses of I-131 and Tc-99m indicates the possibility of genotoxic implications of this type of occupational exposure. Hence, the personnel who work in nuclear medicine departments should carefully apply the radiation protection procedures and should minimize, as low as possible, radiation exposure to avoid possible genotoxic effects.
Effectiveness of syringe shieldings using radionuclides in radiation synovectomy

Nuklearmedizin 2003 Feb;42(1):50-3
Rodel R, Ebert A, Reichmann K, Reinhardt M, Palmedo H, Biersack HJ, von Mallek D.
AIM: The radiation exposure in radiation synovectomy was investigated for technician and therapist using Erbium-169, Rhenium-186 and Yttrium-90 with and without syringe shieldings.
METHODS: Dose rates were measured in relation to the distance of the syringe containing the radionuclide. Measurements were repeated using syringe shieldings which consist of plastic surrounded by a lead layer.
RESULTS: The most relevant radiation exposure arises from Yttrium-90. Using syringe shieldings radiation exposure can be reduced by a factor of thousand.
CONCLUSION: This kind of radiological protection is completely sufficient for the therapist. Concerning the technician preparing the radiopharmaceutics, the limit of the official German dosimetry service (500 mSv) might be exceeded if no special radiological protection is established. Thus, special dosimetry is recommended.

Monitoring of 131I incorporation in nuclear medicine personnel by self accomplished measurements

Nuklearmedizin 2003 Feb;42(1):45-9
Hanscheid H, Lassmann M, Aulbach F, Reiners C.
AIM: The personnel in nuclear medicine therapy wards must be monitored according to German guidelines for incorporations of (131)I. A surveillance with the employees measuring themselves similarly to the autonomous contamination survey using hand-foot-clothing monitors is presented as an alternative to the monitoring according to the official guidelines.
METHOD: The employees use a dedicated device to measure themselves every working day. The automatic individual positioning of the device ensures reliable and reproducible results. The thyroid dose is determined from the measured time activity curve. The individual values of depth and mass of the thyroid are taken into account for activity measurement and dose evaluation, respectively.
RESULTS: The employees measure themselves regularly and utilize the device to check for activities in the thyroid at an early stage after suspected incorporation. The almost complete surveillance permits a dosimetry with slight uncertainty. The determined thyroid doses of all monitored persons average to 0.35 mSv per month.
CONCLUSION: The incorporation surveillance by autonomous monitoring allows a more reliable and more precise dosimetry than the monitoring according to the official guidelines. Despite numerous measurements the practice saves time and money as a result of the automation.

Evaluation of a high dose to a finger from a 60Co accident.

Health Phys 2003 Apr;84(4):477-82
Kinoshita A, Calcina CS, Sakamoto-Hojo ET, Camparato ML, Picon C, Baffa O.
Ribeirao Preto, SP, Brazil.
Electron spin resonance and fluorescence in situ hybridization were used to evaluate the dose to the finger of a worker who accidentally touched a radiotherapy 60Co therapy source in November 1995. In September 1999, the middle finger was amputated. We estimated the dose to the bone of the finger to be 6.4 +/- 0.5 Gy using the electron spin resonance additive dose method and a corrected dose of about 20 +/- 3 Gy could be inferred by translocation analysis in peripheral lymphocytes using the fluorescence in situ hybridization method. This retrospective dosimetry was performed for the victim 4 y after the accident, but the compatibility of the results obtained by physical and biological methods reinforce their validity, although in the case of partial-body exposure the biological method has limitations and demonstrates the need to find appropriate correction factors.
Risk factors for musculoskeletal disorders among nursing personnel in Greek hospitals

Evangelos C. Alexopoulos, Alex Burdorf and Athena Kalokerinou
Int Arch Occup Environ Health (2003) 76: 289-294

Objectives To investigate the relationships between physical, psychosocial, and individual characteristics and different endpoints of musculoskeletal complaints of the lower back, neck and shoulders.

Methods In this cross-sectional study a questionnaire survey was carried out among 351 nursing personnel (response 84%) in six general hospitals in Athens, Greece. A questionnaire was used on physical and psychosocial workload, need for recovery, perceived general health and (1) the occurrence of musculoskeletal complaints in the past 12 months, (2) chronic complaints during at least 3 months, and (3) complaints which led to sickness absence. In logistic regression analysis odds ratios (ORs) were estimated for all relevant risk factors.

Results Self-reported factors of physical load were associated with the occurrence of back pain (OR=1.85), neck pain (OR=1.88), and shoulder pain (OR=1.87) but these factors were not associated with chronic complaints and musculoskeletal sickness absence. Physical load showed a trend with the number of musculoskeletal complaints with ORs of 2.47 and 4.13 for two and three musculoskeletal complaints, respectively. No consistent influence of psychosocial factors on complaints, chronicity, or sickness absence was observed. A perceived moderate general health was also a risk factor, and strongest associations were observed for sickness absence due to back pain (OR=2.03), neck pain (OR=8.31), and shoulder pain (OR=6.84).

Conclusions The handling of physical loads among nurses seems to put them at risk for the occurrence of musculoskeletal disorders. The development of these complaints into chronic complaints and associated sickness absence is strongly determined by perceived general health and almost not associated with work-related physical and psychosocial risk factors. When the influence of work-related risk factors on musculoskeletal health is being investigated, the general health status of individual workers should be taken into account.

Disorders of the musculoskeletal system among dentists from the aspect of ergonomics and prophylaxis.


Szymanska J.

The profession of dentist exposes them during their work to many burdensome and harmful factors. The irrational posture adopted by dentists during their work causes discomfort and disorders of the musculoskeletal system and the peripheral nervous system. The methods and organization of the work of Polish dentists were evaluated from the aspect of ergonomics, with regard to reported by them painful disorders connected with the musculoskeletal system, with the aim of applying proper methods of treatment and prophylaxis. The study showed that dentists worked in conditions which generally produced disorders of the musculoskeletal system. As a result, the long working time in the course of a day was used irrationally from the point of view of ergonomics, which over the years of work consequently increased the number of disorders of the musculoskeletal system. Dentists must make use of various forms of treatment. The effectiveness of prophylaxis concerning the musculoskeletal system were only partly assessed by the respondents through questionnaire. Most dentists are convinced of the effectiveness of physical activity in prophylaxis which they carry out themselves.
Decreasing back stress in home care.
Home Healthc Nurse  2003 Mar;21(3):180-6
Owen BD, Staehler KS.
Although back injuries are a significant problem in home care, limited information exists regarding which tasks are stressful and how stress can be reduced. This study describes home health aides' perceived stressfulness to the back and provides ideas all home care workers can use to decrease back stress.

Chemical hazards/Risques chimiques

Nitrous oxide use in first-year students at Auckland University
Jennifer Ng, Gregory O'Grady, Tristan Pettit, Richard Frith
Lancet 2003; 361: 1349-50
In a recent Lancet Case report, a patient presented with subacute combined degeneration of the spinal cord after recreational use of nitrous oxide (N2O). There is very little information about use of this substance as a recreational drug. In a questionnaire-based study, we surveyed 1782 students in their first year at the University of Auckland, New Zealand. 1360 (76%) questionnaires were completed and consistent. 780 (57%) students were aware of recreational use of N2O, 158 (12%) used the substance recreationally, and 39 (3%) inhaled it at least monthly. Users were most likely to be white and to be men. Our results show a high frequency of recreational N2O use in first-year students at Auckland University. Although this study does not accurately reflect use of this substance in the wider community, the high prevalence suggests that presentations of subacute myelopathy in an otherwise fit young person should prompt an enquiry about use of N2O.

The Permeability of Surgical Gloves to Seven Chemicals Commonly Used in Hospitals
Erja A. Mäkelä*, Sinikka Vainiotalo and Kimmo Peltonen
Disinfectants may cause adverse effects directly on the skin or systemically by permeating through the skin. In this study breakthrough times were measured for surgical gloves with chemicals which are commonly used in healthcare. Classical methods of analytical chemistry were tailored for the permeation tests, which were carried out according to the European standard EN 374 and the American standard ASTM F739. An exception to the EN 374 standard was made by using a 4 h testing time instead of 8 h. The gloves did not exhibit permeation of potassium hydroxide (45%), sodium hypochlorite (13%) or hydrogen peroxide (30%). Furthermore, neither glutaraldehyde (2%) nor chlorhexidine digluconate (4%) in the commercial disinfectant solutions studied exhibited permeation. Slight permeation of peracetic acid (0.35%) and acetic acid (4%) from a disinfectant agent was observed through single layered natural rubber materials. Clear evidence of formaldehyde permeation was detected through single layered natural rubber gloves, where the ASTM breakthrough times were 17–67 min, but the permeation rates were not high enough for breakthrough to have occurred according to the EN standard. The gloves in this study which offered most protection from chemical permeation were the chloroprene gloves and the thick double layered natural rubber gloves.

Disabling disturbance of olfaction in a dental technician following exposure to methyl methacrylate.
Int Arch Occup Environ Health  2002 Oct;75 Suppl:S73-4
Braun D, Wagner W, Zenner HP, Schmahl FW.
It is often difficult to diagnose dysosmia due to occupational olfactotoxic substances. The authors present a case of disabling disturbance of olfaction in a dental technician. This is very likely to have been caused by exposure to methyl methacrylate. From 1988-1992, the dental technician had very extensive and sustained contact with a self-polymerizing acrylic resin based on methyl methacrylate. Her perception of smell was still normal in 1988, but it deteriorated up to 1992. The olfactory disorders have persisted and impede social life and occupational rehabilitation.

**Symptoms and lung function in health care personnel exposed to glutaraldehyde.**
Am J Ind Med 2003 Feb;43(2):196-203
Waters A, Beach J, Abramson M.
BACKGROUND: Glutaraldehyde is widely used as a disinfectant for endoscopic equipment. The aim of this study was to investigate work practices and glutaraldehyde exposure in relation to symptoms and lung function. METHODS: A questionnaire was administered to 76 nurses. Exposed nurses (n = 38) also completed lung function tests and visual analogue scales before and after a work session in which glutaraldehyde exposure occurred. Disinfection activities were timed and counted, personal exposures established, and control measures documented. RESULTS: Exposure values above the exposure limit (0.10 ppm) were found for all exposure control methods except for the enclosed washing machine. Skin symptoms were 3.6 times more likely to be reported by exposed workers. None of the other symptoms were significantly associated with glutaraldehyde exposure. There were significant cross-shift reductions in FVC and FEV(1) in the exposed group. No evidence of a dose-response relationship for symptoms or lung function was found. CONCLUSIONS: Further exposure controls for both glutaraldehyde and gloves are required to improve skin care in glutaraldehyde exposed nurses. Exposure monitoring methods also need review. Copyright 2003 Wiley-Liss, Inc.

**Development of an HPLC method for simultaneous analysis of five antineoplastic agents.**
Larson RR, Khazaeli MB, Dillon HK.
Simultaneous analysis of common antineoplastic agents potentially hazardous to healthcare workers is of much interest for the evaluation of the overall health risk to these workers. Such analysis could be applied to both air and surface monitoring samples to provide a broader indication of risk to combinations of these agents. It was determined that the ability to simultaneously evaluate five frequently used, potentially hazardous agents was sufficient for general evaluation of exposures to healthcare workers. The approach used to select the five agents was to obtain a list of the agents used most frequently in both a cancer hospital and an outpatient cancer treatment center, then review the list to determine which agents were potentially more hazardous to human health. From these reviews, it was decided to attempt to develop an analytical method able to detect and quantify the presence of 5-fluorouracil, ifosfamide, cyclophosphamide, doxorubicin HCl, and paclitaxel. A reverse-phase high performance liquid chromatograph (HPLC) with a Waters Symmetry C8 column and a UV wavelength of 195 nm was selected for method development. The mobile phase was 22.75 percent acetonitrile in water buffered to a pH of 6.0. The HPLC analytical method developed is able to detect all five agents of interest, and at minimum detectable concentrations of 0.5-microgram/mL for each of the five agents.
**Study on chromosome damage among nurses occupationally exposed to antineoplastic drugs in an oncology department.**

Yang DP, Xu SJ, Wang JX.

**The relationship between amalgam restorations and mercury levels in male dentists and nondental health professionals.**

J Public Health Dent 2003 Winter;63(1):52-60

OBJECTIVES: The objectives of this study were: (1) to compare the mercury levels in general dentists with the mercury levels in other health professionals using toenail clippings as a biomarker, (2) to identify risk factors associated with high mercury levels, and (3) to compare practice characteristics of dentists with high and low mercury levels. METHODS: A sample of 579 men was randomly selected from the 33,737 men participating in the Health Professionals Follow-up Study who had provided toenail samples in 1987. A questionnaire was sent to these male subjects in 1991 to obtain information on fish consumption, toothbrushing frequency, number of teeth, number of amalgam restorations, general practice or specialty status, number of amalgam restorations placed and removed per week, mercury storage and handling procedures, and mercury spillage incidents. A measure of long-term mercury exposure was obtained from toenail samples using neutron activation analysis for the 410 respondents (71% response rate). The 90th percentile mercury level in toenails (0.88 ppm) was selected as the threshold for elevated toenail mercury level. RESULTS: No relationship was found between the number of dental amalgams and toenail mercury levels among general dentists, dental specialists, and nondental health professionals. General dentists were found to have more than twice the level of mercury in toenails than nondental health professionals (mean level = 0.94 vs 0.45) and 60 percent higher than dental specialists (mean = 0.59). The combined use of disposable capsules and water storage of scrap amalgam appeared to reduce the risk of elevated mercury levels. Regardless of professional status, consumption of tuna and saltwater fish were the primary exposure factors that were positively associated with toenail mercury levels. CONCLUSIONS: As shown by the associations with dental profession and fish consumption, the mercury content of toenails is a stable biomarker of cumulative long-term mercury exposure. The lack of association between nail mercury levels and number of amalgam restorations suggests that avoidance of mercury amalgam restorative materials cannot be justified by the presence of mercury released from dental amalgams.

**Dental technician's pneumoconiosis: mineralogical analysis of two cases.**


Pneumoconiosis was diagnosed by open lung biopsy in two dental technicians who had interstitial lung disease. Mineralogical analysis was performed to investigate the origin of the dust that had been inhaled. A marked accumulation of silicon and phosphorus was found in both cases. The hard metals chromium and cobalt were also found. Dental technician's pneumoconiosis is a complex pneumoconiosis in which such dust and hard metals may play a role.
Airborne endotoxin predicts symptoms in non-mouse-sensitized technicians and research scientists exposed to laboratory mice.


Research scientists, laboratory technicians, and animal handlers who work with animals frequently report respiratory and skin symptoms from exposure to laboratory animals (LA). However, on the basis of prick skin tests or RASTs, only half are sensitized to LA. We hypothesized that aerosolized endotoxin from mouse work is responsible for symptoms in nonsensitized workers. We performed a cross-sectional study of 269/310 (87%) workers at a research institution. Subjects completed a questionnaire and underwent prick skin tests (n = 254) or RASTs (n = 16) for environmental and LA allergens. We measured airborne mouse allergen and endotoxin in the animal facility and in research laboratories. Of 212 workers not sensitized to mice, 34 (16%) reported symptoms compared with 26 (46%) of mouse-sensitized workers (p < 0.001). Symptomatic workers were more likely to be atopic, regardless of mouse sensitization status. Symptomatic non-mouse-sensitized workers spent more time performing animal experiments in the animal facility (p = 0.0001) and in their own laboratories (p < 0.0001) and had higher daily endotoxin exposure (p = 0.008) compared with asymptomatic coworkers. In a multivariate model, daily endotoxin exposure most strongly predicted symptoms to mice in non-mouse-sensitized workers (odds ratio = 30.8, p = 0.003). We conclude that airborne endotoxin is associated with respiratory symptoms to mice in non-mouse-sensitized scientists and technicians.

Reproductive and developmental hazards in the workplace.

McElgunn B.

Toxic exposures to both the father and the mother before conception and to the mother during pregnancy can affect fertility, the course of pregnancy, and fetal development. The present focus on cancer-causing chemicals in toxicity evaluations has overshadowed other important health endpoints, such as reproductive and developmental toxicity, that may occur at much lower levels of exposure. Environmental tobacco smoke, video display terminals, and indoor air quality are three of the most common concerns of pregnant women in their places of work. The controversies and uncertainties about these and the lack of data on other potential hazards make toxic exposure both a delicate and a necessary issue when counseling women about their workplace health during pregnancy.

Allergy/Allergies

Benzoyl peroxide as a cause of airborne contact dermatitis in an orthopaedic technician.

Forschner K, Zuberbier T, Worm M.

Between 1978 and 2001, 22 patients were diagnosed with occupation-related allergic contact dermatitis from isocyanates and/or polyurethanes in our clinic. 13 had a positive reaction to the isocyanates, of whom 10 also reacted to dianinodiphenylmethane (MDA), which is used
in the production or processing of isocyanates and polyurethanes; 9 reacted only to MDA. The object of the present study was to identify the trades and industries responsible for the development of contact allergy to these resins. Such patients must be patch tested with the isocyanates contacted at work, and account must be taken of positive reactions to MDA as a marker for isocyanate sensitivity.

**Primary and secondary allergies to laboratory animals.**

J Occup Environ Med 2002 Dec;44(12):1143-52
Goodno LE, Stave GM.

Although laboratory animal allergy (LAA) is a significant occupational hazard among workers exposed to laboratory animals, few studies have evaluated long-term risks to workers who remain in the workplace. This short-term focus has obscured the evaluation of subsequent animal allergies (secondary LAA). We analyzed surveillance data from a 10-year LAA prevention program to estimate incidence rates of primary and secondary LAA and to evaluate the effectiveness of the prevention program in reducing the development of primary LAA. The 10-year incidence rates of primary and secondary LAA were 1.34 (95% CI, 0.78-1.90) and 11 (95% CI, 7.4-14.6) cases per 100 person-years, respectively. The annual incidence of primary LAA was reduced from 3.6% to 0 in the first 5 years and did not rise above 1.2% over the remaining years, whereas the incidence of secondary LAA was greater than 8% in most years. These findings suggest that programs effective at preventing primary LAA may need to be evaluated for their effectiveness at protecting against further risk.

**Allergic contact dermatitis from melphalan and chlorambucil: cross-sensitivity or cosensitization?**

Contact Dermatitis 2002 Nov;47(5):309-14
Goon AT, McFadden JP, McCann M, Royds C, Rycroft RJ.

**Allergic contact dermatitis in a dental nurse induced by methacrylates.**

Kiec-Swierczynska M, Krecisz B.

Allergy to acrylic plastics is rather frequent among doctors and dental technicians. A rare case of allergy to acrylates in a dental nurse (only one reports can be found in the literature) is presented. The patient reacted to eight chemical compounds of the group under study. UV-cured composites used in conservative dentistry for tooth filling was the source of allergy in the case under report.

**Latex allergy and latex-fruit syndrome among medical workers in Taiwan.**

J Formos Med Assoc 2002 Sep;101(9):622-6
Chen YH, Lan JL.

BACKGROUND AND PURPOSE: Latex allergy is a serious occupational health problem among medical workers, but there are few data regarding its incidence and clinical characteristics in Taiwan. No data on the latex-fruit syndrome in Taiwan have been reported. This study investigated the prevalence of both latex allergy and latex-fruit syndrome, and risk factors for the development of latex allergy among medical workers. METHODS: A total of 302 medical workers who had daily contact with latex gloves during work at three hospitals in central Taiwan were interviewed and screened by questionnaire to detect allergic reactions to latex. Those with a history of immediate allergic reaction to latex gloves were screened for specific IgE antibodies against latex. Subjects whose screening results were positive were considered to have immediate latex allergy. Latex-fruit syndrome was defined as a clinical
condition that manifested as immediate allergic reactions to both latex and fruit. RESULTS: Twenty-six (8.6%) medical workers had immediate allergic reactions to latex. The severity of latex allergy was correlated to the serum level of latex-specific IgE. Seven subjects with latex allergy (26.9%) had latex-fruit syndrome. Risk factors for development of latex allergy among medical workers were latex glove-related hand dermatitis, fruit allergy, preexisting atopic disease, hospital employment for more than 2 years, and total exposure to latex gloves of more than 9,000 hours. CONCLUSION: Latex allergy is an underrecognized occupational health problem in Taiwan. Early identification of medical workers at high risk is important so that they can be advised to use non-latex gloves as early as possible to prevent further sensitization to latex proteins.

Prevention of allergy to acrylates and latex in dental personnel.
Ohlson CG, Svensson L.
Contact allergy to acrylate monomers and immediate hypersensitivity to latex gloves in dental personnel calls for preventive measures to reduce the risks. The aim of the study was to evaluate the preventive effect of an information campaign after a 3-year follow-up. The campaign included instructions and training according to an ordinance, both in writing and orally, e.g. concerning the choice of products and protection devices and the proper handling of the materials. The follow-up was carried out through 1997-2000 and included all eligible 513 subjects. Information on new cases was ascertained by a questionnaire and reports from the occupational health service and the department of dermatology. The number of expected new cases was based on the incidence rate, derived from a preceding prevalence study in the same county, and the exposed years at risk in the follow-up period. No new case of allergy to acrylates or latex rubber was found in the follow-up period as against 4.91 expected (p = 0.007). In conclusion, this study indicates that occupational allergies can be prevented successfully, but requires vigorous measures to influence the behaviour and the routines of daily work in dental practice.

Infection Control/Hygiène

The Challenge of Prion Decontamination
Gerald McDonnell and Peter Burke
Clinical Infectious Diseases 2003;36:1152-1154

Infection control practices in clinical laboratories in Pakistan.
Abdul Mujeeb S, Adil MM, Altaf A, Shah SA, Luby S.
Clinical laboratories in Karachi, Pakistan, were evaluated for adherence to standard precautions using an observational checklist. Among 44 laboratories, gloves were used in 2, protective gowns in 12, disinfectant in 7, and an incinerator in 7. Standard worker safety precautions are not followed at major clinical laboratories in Karachi.

Elimination of epidemic methicillin-resistant Staphylococcus aureus from a university hospital and district institutions, Finland.
From August 1991 to October 1992, two successive outbreaks of methicillin-resistant Staphylococcus aureus (MRSA) occurred at a hospital in Finland. During and after these outbreaks, MRSA was diagnosed in 202 persons in our medical district; >100 cases involved epidemic MRSA. When control policies failed to stop the epidemic, more aggressive measures were taken, including continuous staff education, contact isolation for MRSA-positive patients, systematic screening for persons exposed to MRSA, cohort nursing of MRSA-positive and MRSA-exposed patients in epidemic situations, and perception of the 30 medical institutions in that district as one epidemiologic entity brought under surveillance and control of the infection control team of Turku University Hospital. Two major epidemic strains, as well as eight additional strains, were eliminated; we were also able to prevent nosocomial spread of other MRSA strains. Our data show that controlling MRSA is possible if strict measures are taken before the organism becomes endemic. Similar control policies may be successful for dealing with new strains of multiresistant bacteria, such as vancomycin-resistant strains of S. aureus.

**Defects in the surgical glove barrier. Single or double gloves**

Jensen SL.

The purpose of wearing surgical gloves is to provide an antimicrobial barrier between the hands of the surgical staff and the tissues of the patient. Glove perforations are common, depending on the function of the staff member and the duration and nature of the surgery. In addition, gloves can hydrate, which is also a potential route of infection. The use of two pairs of gloves (double gloves) efficiently reduces both the perforation rate and the hydration of the glove barrier. Decreased dexterity and tactile sensitivity, however, are common objections, which keep many surgeons from wearing double gloves. Moreover, they seem to have little practical importance. Neither single nor double gloves have proved their effectiveness in terms of actual infections, but it seems rational to maintain a surgical glove barrier. Double gloves can be recommended as a simple means of improving the integrity of this barrier.

**Stress – Mental disorders/Stress – psychopathologie**

**Nurses' Working Conditions and the Nursing Shortage**

Robert Welton

JAMA. 2003;289:1632.

**Medical staff in emergency situations: severity of patient status predicts stress hormone reactivity and recovery**

J K Sluiter, A J van der Beek and M H W Frings-Dresen

Occupational and Environmental Medicine 2003;60:373-375

**ABSTRACT**

Background: Although repetitive exposure to stressful situations is thought to habituate the physical stress responses, work stress is experienced by medical personnel in emergency and intensive care units; performance should, however, remain stable over time.

Aims: To investigate the neuroendocrine reactions (reactivity during and recovery after work) in experienced emergency caregivers during emergency situations.

Methods: A within subjects pre-post design was studied in the natural work environment of 20 municipal Dutch emergency caregivers. A stress protocol was developed in which the biomarker cortisol was measured in saliva at baseline, during the emergency period, and
during recovery. Four scenarios were tested between subjects in which the severity of the emergency situation and the time of day were taken into account. Results: Greater endocrine reactions were shown during and after the handling of patients in direct life threatening situations during morning hours compared to the handling of patients who were not in direct life threatening situations.

**Benefits of community meetings in the corporate setting after the suicide of a coworker.**
J Psychosoc Nurs Ment Health Serv 2003 Apr;41(4):44-9
Clements PT, DeRanieri JT, Fay-Hillier TM, Henry GC. When an employee commits suicide, his or her coworkers are confronted unexpectedly with issues related to the sudden traumatic death. Being inundated with questions, grappling with acceptance of the loss, and exploring how this could have happened are factors that can complicate the bereavement process and delay a return to workplace homeostasis. Understanding the dynamics and issues related to grief and bereavement after sudden traumatic death potentially can accelerate the recovery process and promote restoration of workforce normalcy for employees and organizations. This can be significantly important to corporate managers and administrators who must maintain ongoing productivity despite such disruption, while promoting adaptive coping for their employees.

**Workplace stress among psychiatric nurses. Prevalence, distribution, correlates, & predictors.**
J Psychosoc Nurs Ment Health Serv 2003 Apr;41(4):32-41
Robinson JR, Clements K, Land C. Vicarious trauma and burnout are serious manifestations of workplace stress. Both can have substantial consequences for health care professionals, health services, and consumers. This article reports results of a study examining the prevalence, distribution, correlates, and predictors of vicarious trauma and burnout among registered psychiatric nurses (RPNs). A survey was distributed to all practicing RPNs in Manitoba, Canada (N = 1,015). The survey contained the Maslach Burnout Inventory, the Traumatic Stress Institute Belief Scale (i.e., a measure of vicarious trauma), and a section on symptoms of posttraumatic stress disorder (PTSD). The RPNs were found to be experiencing high levels of emotional exhaustion (i.e., high burnout) and even higher levels of personal accomplishment (i.e., low burnout). No significant differences were found between respondents' total scores on the Traumatic Stress Institute Belief Scale and instrument norms for mental health care professionals. Predictors of burnout and vicarious trauma also are presented in this article. Stress experienced by RPNs, as well as strengths on which to build, clearly are evident in the study results. Strategies for reduction in workplace stress may benefit psychiatric nurses, clients, and health services.

**Violence/Violence**

**Workplace violence in Alberta and British Columbia hospitals.**
Health Policy 2003 Mar;63(3):311-21
Hesketh KL, Duncan SM, Estabrooks CA, Reimer MA, Giovannetti P, Hyndman K, Acorn S. Workplace violence is a significant and widespread public health concern among health care workers, including nurses. With growing awareness of how practice environments influence patient outcomes and the retention of health professionals, it is timely to consider the impact of workplace violence in hospitals. Registered nurses in Alberta and British Columbia, Canada were surveyed on their experiences of violence in the workplace over the last five
shifts. Our results suggest that nurses are experiencing many incidences of violence in a given work week, particularly in the emergency, psychiatric, and medical-surgical settings. Most violent acts are perpetrated by patients, but there is also a significant portion of violence and abuse committed by hospital co-workers, particularly emotional abuse and sexual harassment. Our results also indicate that the majority of workplace violence is not reported. We suggest that using the Broken Windows theory might be a useful tool to conceptualize why workplace violence occurs, and that this framework be used to begin to develop new violence prevention policies and strategies.

Perceptions and experiences of nurses in Turkey about verbal abuse in clinical settings.

Uzun O.

PURPOSE: To determine the frequency and sources of verbal abuse against nurses working in clinical settings in different hospitals in the last 12 months, to identify nurses' perceptions about verbal abuse, and to determine types of emotions experienced by nurses who had encountered verbal abuse. DESIGN AND SAMPLE: This descriptive study was conducted in May 2001 in Turkey. Data were collected from 467 nurses working in various clinical settings in three hospitals. METHOD: The instrument was a 23-item questionnaire on verbal abuse. Data were evaluated using frequency and descriptive statistics. FINDINGS: The findings revealed that the majority of nurses had experienced verbal abuse in the last 12 months (86.7%, n = 405). Most nurses (92%) reported that verbal abuse negatively affected their morale. The most common sources of verbal abuse were patients' relatives and patients themselves. CONCLUSIONS: Workplace verbal abuse events cannot always be anticipated. Contingency plans to handle potential situations should be developed.

Assault of long-term care personnel.

Levin PF, Hewitt JB, Misner ST, Reynolds S.

The purpose of this study was to explore contributing factors, consequences, and solutions to assault of long-term care personnel. The study sample consisted of three focus groups composed of certified nursing assistants and administrators employed in long-term care facilities within a large Midwestern city. Using content analysis methodology, multiple themes emerged: worker attitude, vulnerability, work culture, job tasks, training, working short-staffed, financial concerns, changes in social values and health care, community crime, substance abuse, accepting assaults, coworker threats, issues of retaliation, professional withdrawal, and inability to share experiences. Preventive measures suggested by the participants are consistent with those recommended by the Occupational Safety and Health Administration. Implications for staff and administrators include both personal and workplace strategies. Recommendations include implementing more comprehensive violence prevention programs that includes conflict management and training tailored to the type of residents.

Other/Autre

Miscellaneous/Divers

Ambulance Crash-Related Injuries Among Emergency Medical Services Workers—United States, 1991-2002

Is the life expectancy of anesthesiologists decreased?
Hagmar L
Editorial
http://www.occuphealth.fi/cgi-bin/sjweh/abst_testi.pl?key=2003|2|83--|1

Disability in medical students and doctors
Alistair R Fielder
The Lancet Volume 361, Number 9365, 12 April 2003
http://www.thelancet.com/journal/vol361/iss9365/full/llan.361.9365.correspondence.25229.1

Occupational injuries to NHS staff in England increase by a quarter
Susan Mayor
BMJ 2003;326:1002

How much are anesthesiologists exposed to electromagnetic fields in operating rooms?
Lee JH, Lee HC, Kim HD, Kim JY, Kim DW, Nam YT, Kim KJ.
Numerous electronic devices have been introduced into the operating room. Although little is known about the relationship between exposure to electromagnetic fields (EMF) and health hazards, some authors reported its association with cancer or other diseases. We measured the amount of EMF exposure that an anesthesiologist gets in the operating room. The density of the magnetic field was checked by an extremely low frequency (ELF) field strength measurement system in the 19 operating rooms of our hospital. We measured the magnetic field intensity at a distance of 30 cm, 50 cm, and at the place where the anesthesiologist usually stands from the center of the main monitor. The average exposure quantities of magnetic fields in 19 operating rooms were 2.22 +/- 1.13 mG at 30 cm, 1.29 +/- 0.84 mG at 50 cm and 1.00 +/- 0.78 mG at the anesthesiologist's standing points respectively. Because quantities over 2 or 3 mG were accepted to be high radiation levels of EMF by many reports describing the hazards of EMF, we set 2 mG to be the cutoff value. In some of the 19 operating rooms, the measured EMF density exceeded our cutoff value. Although the health hazards related to EMF exposure are still equivocal, anesthesiologists should consider making an effort to improve their environment and reduce their exposure to EMF.

[Questionnaire among health personnel on early retirement. Four out of five consider their illness an occupational injury]  
Lakartidningen 2003 Mar 27;100(13):1144-7
Ijeh C, Thiringer G, Dellve L.

Work factors as predictors of sickness absence: a three month prospective study of nurses' aides.
Occup Environ Med 2003 Apr;60(4):271-8
Eriksen W, Bruusgaard D, Knardahl S.
AIMS: To identify the work factors that predict sickness absence in nurses' aides. METHODS: The sample comprised 5563 Norwegian nurses' aides, not on leave because of illness or pregnancy when they completed a mailed questionnaire in 1999. Of these, 4931 (88.6%) completed a second questionnaire three months later. The outcome measure was the
three month incidence proportion of certified sickness absence (>3 days), as assessed by self reports at follow up. RESULTS: Perceived lack of encouraging and supportive culture in the work unit (odds ratio (OR) 1.73; 95% confidence interval (CI) 1.28 to 2.34), working in psychiatric and paediatric wards, having injured the neck in an accident, and health complaints were associated with higher risk of sickness absence, after adjustments for a series of physical, psychological, and organisational work factors, personal engagement in the work unit, demographic characteristics, and daily consumption of cigarettes. Having untraditional jobs (for nurses' aides) (OR 0.53; 95% CI 0.36 to 0.77), and engaging in aerobics or gym were associated with a lower risk of sickness absence. CONCLUSIONS: The study suggests that the three month effects of work factors on rates of certified sickness absence are modest in nurses' aides. The most important work factor, in terms of predicting sickness absence, seems to be perceived lack of encouraging and supportive culture in the work unit.

Timed bright-light exposure and complaints related to shift work among women.
Leppamaki S, Partonen T, Piironen P, Haukka J, Lonnqvist J.
OBJECTIVES: This field study measured whether repeated, brief exposures to bright light during night shifts improved subjective well-being during and after night work. A secondary objective was to investigate whether this response differed by season (summer or winter), seasonality, or age. METHODS: Eighty-seven healthy female nurses were voluntarily exposed to brief periods (4 x 20 minutes) of bright (5000 lux) light at scheduled times during every night shift over a 2-week period. Each morning following a night shift the subjects filled out self-assessment questionnaires measuring subjective symptoms and distress caused by work at night. The questionnaires were also completed 2 weeks before and after the light intervention. The study had two phases, summer (May-June) and winter (November-December). Thirty-seven of the subjects participated during both periods. RESULTS: Light significantly alleviated the subjective distress associated with nightshift work, both in summer and in winter, independent of the subject's age. The effect was stronger for those who reported routine seasonal changes in mood. CONCLUSIONS: Short pulses of timed bright-light exposure may enhance subjective adaptation to night work.

Evidence Based Medicine

The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure
Aram V. Chobanian, George L. Bakris, Henry R. Black, William C. Cushman, Lee A. Green, Joseph L. Izzo, Jr, Daniel W. Jones, Barry J. Materson, Suzanne Oparil, Jackson T. Wright, Jr, Edward J. Roccella, and the National High Blood Pressure Education Program Coordinating Committee
JAMA. 2003;289
"The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure" provides a new guideline for hypertension prevention and management. The following are the key messages: (1) In persons older than 50 years, systolic blood pressure (BP) of more than 140 mm Hg is a much more important cardiovascular disease (CVD) risk factor than diastolic BP; (2) The risk of CVD, beginning at 115/75 mm Hg, doubles with each increment of 20/10 mm Hg; individuals who are normotensive at 55 years of age have a 90% lifetime risk for developing hypertension; (3) Individuals with a systolic BP of 120 to 139 mm Hg or a diastolic BP of 80 to 89 mm Hg
should be considered as prehypertensive and require health-promoting lifestyle modifications to prevent CVD; (4) Thiazide-type diuretics should be used in drug treatment for most patients with uncomplicated hypertension, either alone or combined with drugs from other classes. Certain high-risk conditions are compelling indications for the initial use of other antihypertensive drug classes (angiotensin-converting enzyme inhibitors, angiotensin-receptor blockers, -blockers, calcium channel blockers); (5) Most patients with hypertension will require 2 or more antihypertensive medications to achieve goal BP (<140/90 mm Hg, or <130/80 mm Hg for patients with diabetes or chronic kidney disease); (6) If BP is more than 20/10 mm Hg above goal BP, consideration should be given to initiating therapy with 2 agents, 1 of which usually should be a thiazide-type diuretic; and (7) The most effective therapy prescribed by the most careful clinician will control hypertension only if patients are motivated. Motivation improves when patients have positive experiences with and trust in the clinician. Empathy builds trust and is a potent motivator. Finally, in presenting these guidelines, the committee recognizes that the responsible physician's judgment remains paramount.

**Documents en Français**

**Reglementation**

*Décret n° 2003-313 du 3 avril 2003 déterminant les mesures propres à empêcher la propagation d’une épidémie de variole en France*

J.O n° 81 du 5 avril 2003 page 6113
http://www.legifrance.gouv.fr/WAspad/UnTexteDeJorf?numjo=SANP0320444D

*Circulaire DGS/DHOS/DRT/DSS n° 2003-165 du 2 avril 2003 relative aux recommandations de mise en oeuvre d'un traitement antirétroviral après exposition au risque de transmission du VIH*

(Abrogé la circulaire du 9 avril 1998)
http://www.adiph.org/circ020403.pdf

**Continuité des soins**

Arrêté du 30 avril 2003 relatif à l'organisation et à l'indemnisation de la continuité des soins et de la permanence pharmaceutique dans les établissements publics de santé et dans les établissements publics d'hébergement pour personnes âgées dépendantes.

*JO du 2 mai 2003*

http://www.legifrance.gouv.fr/WAspad/Visu?cid=328475&indice=4&table=JORF&ligneDeb =1#

**Articles& documents en Français**

**Groupe de parole à l'hôpital et réticence des médecins**

Boulanger M, Kahal A
http://www.33docpro.com/fonds_documentaire/annexes/2cm0313.pdf

**Pneumopathie atypique du Sud-Est asiatique et milieu de travail**

Dossier INRS du 21 mai 2003
http://www.inrs.fr/dossiers/sras.htm
**La France est condamnée pour non-transposition de deux directives Euratom.**

Liaisons Sociales, 19 mai 2003


Sans contester le manquement qui lui est reproché, le gouvernement français a fait valoir que la procédure d'adoption des textes d'application s'était révélée plus longue que prévu en raison, notamment, de la nécessité de consulter pour avis un certain nombre d'organismes.

(CJCE, 15 mai 2003, aff. C-483/01 et aff. C-484/01)

**L'étiquetage des substances dangereuses enfin disponible sur le Web**