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http://www.hc-sc.gc.ca/pphb-dgspp/publicat/ccdr-rmtc/03vol29/dr2924e.html


OBJECTIVES: The aims of this study were to assess and compare the Universal Precaution (UP) practices of gastroenterologists (GE) and GI endoscopy nurses (GIEN). METHODS: We mailed a 23-item questionnaire to 250 GE and GIEN selected, respectively, from the American Board of Internal Medicine online directory and the Society of Gastroenterology Nurses and Associates membership directory. RESULTS: A total of 77 (31%) GE and 157 (60%) GIEN responded. In all, 32% of GE and 50% of GIEN washed their hands before and after handling every patient (p<0.01), and 5% of GE and 30% of GIEN wore gloves during all patient contacts (p<0.01). Fewer GE than GIEN used face shields for all procedures (14% vs 21%; p=0.02). Protective gowns were worn during all procedures by 29% of GE and 46% of GIEN (p<0.01). More GE than GIEN either did not recap used needles or used the one-handed "scoop" technique (85% vs 77%; p=0.02). When asked to give an overall assessment, 46% of GE and 60% of GIEN reported that they always complied with UP (p=0.06). Profession, age, gender, hours of daily patient contact, and adequacy of staffing did not affect compliance. CONCLUSIONS: GIEN adhered to UP recommendations better than GE regarding most items queried except in the handling of used needles. Nonetheless, for both groups, compliance with proper hand washing and use of gloves, face shields, and gowns was very poor, and handling of used needles was satisfactory.


Current data indicate that the risk for transmitting bloodborne pathogens in dental health care settings is low. Pre-exposure hepatitis B vaccination and the use of standard precautions to
prevent exposure to blood are the most effective strategies for preventing DHCP from occupational infection with HIV, HBV or HCV. Each dental health care facility should develop a comprehensive written program for preventing and managing occupational exposures to blood that: (1) describes the types of blood exposures that may place DHCP at risk for infection; (2) outlines procedures for promptly reporting and evaluating such exposures; and (3) identifies a health care professional who is qualified to provide counseling and perform all medical evaluations and procedures in accordance with the most current USPHS recommendations. Finally, resources should be available that permit rapid access to clinical care, testing, counseling, and PEP for exposed DHCP and the testing and counseling of source patients.


BACKGROUND: Blood exposures in the workplace may put first responders, a group which includes firefighters, emergency medical technicians, and paramedics, at increased risk for hepatitis C virus (HCV) infection. To determine the prevalence of antibody to HCV (anti-HCV) and risk factors for infection among first responders, we analyzed data from prevalence surveys conducted among first responders in Atlanta, Ga, in 1991; Connecticut in 1992; and Philadelphia, Pa, in 1999. METHODS: Serum or blood samples from participants of the 3 surveys were tested for anti-HCV. Prevalence of anti-HCV was compared with that in the general US population and among participants by occupational (Atlanta) and nonoccupational (Atlanta and Philadelphia) risk factors for infection. RESULTS: Prevalence of anti-HCV among the 2946 participants of the 3 surveys ranged from 1.3% to 3.6% and was no different than among appropriate referent groups in the general US population. First responders in Atlanta reported high rates of skin exposures to blood (174 per 100 person-years) but few mucosal or needle-stick exposures (1 and 0 per 100 person-years, respectively) during the 6 months prior to the survey. Hepatitis C virus infection was not associated with a history of skin exposures to blood (prevalence ratio [PR], 1.1; 95% confidence interval [CI], 0.3-4.2), and HCV prevalence did not increase with longer duration (>10 years) of employment (PR, 1.1; 95% CI, 0.3-4.3). Nonoccupational risk factors associated with HCV infection included history of a sexually transmitted disease (PR, 7.4; 95% CI, 1.6-35.3) among Atlanta participants and histories of illegal drug use (PR, 4.4; 95% CI, 2.6-7.2) and blood transfusion before 1992 (PR, 1.9; 95% CI, 1.1-3.3) among Philadelphia participants. CONCLUSIONS: First responders are exposed to blood in the workplace, and standard precautions should be rigorously implemented. Although risk for HCV infection related to percutaneous or mucosal exposures could not be accurately assessed, the low prevalence of HCV infection indicates that routine HCV testing of first responders as an occupational group is not warranted. Testing should routinely be offered to those requiring postexposure management and those with a history of nonoccupational risk factors indicating an increased risk for infection.


A ccidental transmission of HIV infection to health care workers during occupational exposure is a real threat today. The first such case in India has been documented by NACO recently. Adequate knowledge about the disease and practice of safety measures are our best bet to reduce such transmission. A survey was carried out amongst over 500 nurses in a tertiary care referral hospital in Delhi to assess their knowledge, attitude and practices towards HIV/AIDS. While overall knowledge was satisfactory, there were gaping holes in vital areas. The conversion of their theoretical knowledge into safe practices was shockingly poor. It was due to attitude problems as much as inadequate supplies. High incidence of accidental exposures in the near past and complete ignorance of post-exposure prophylaxis guidelines was another highlight of this study. Despite tremendous efforts put in by the Government as well as various Non-Governmental Organizations, we are completely ill equipped to fight the menace of occupational HIV transmission. In order to fight this menace, "safe practices" have to be made a "way of life" for HCWs. Our health care planners need to take note of it and our teaching and training programmes need complete re-orientation to achieve this goal.


**BACKGROUND:** Emergency prophylaxis following needle-stick and sexual exposures includes HIV post-exposure prophylaxis, hepatitis B prophylaxis and emergency contraception. The Centers for Disease Control and Prevention endorse HIV post-exposure and hepatitis B prophylaxis for healthcare workers, and hepatitis B prophylaxis and emergency contraception after sexual assault. The New York State Department of Health advocates HIV post-exposure prophylaxis after sexual assault. This study compares emergency department practitioners in New York State (NYS) with those from other states in their willingness to offer emergency prophylaxis after needle-stick and sexual exposures, and their self-reported history of prescribing and using HIV post-exposure prophylaxis. **METHODS:** The authors surveyed emergency department practitioners from across the US at the American College of Emergency Physicians 2000 Scientific Assembly. The questionnaire included clinical scenarios describing different patients who present to the emergency department within one hour of a needle-stick injury, sexual assault or consensual sexual encounter, and had questions on the practitioners self-reported prescribing and usage of HIV post-exposure prophylaxis. For each scenario the practitioners were asked to indicate if they would offer emergency prophylaxis to different patients at varied HIV risk levels. The data were processed through SPSS 10.0. **RESULTS:** Of the 600 respondents, 100 were from NYS. In the clinical scenarios, NYS practitioners were more likely than other US practitioners to offer HIV post-exposure prophylaxis for exposures to unknown and low HIV risk sources (p<0.05) and to offer hepatitis B prophylaxis in most of the sexual exposure scenarios (p<0.01). All practitioners offered HIV post-exposure and hepatitis B prophylaxis less often after consensual sexual encounters than after sexual assault and needle-stick injuries. In most cases, NYS practitioners were more willing to offer emergency contraception after sexual assault and consensual sexual encounters than were other practitioners (p<0.05). In terms of self-reported prescribing of HIV post-exposure prophylaxis, NYS practitioners had prescribed HIV post-exposure prophylaxis after sexual assault (p<0.001) and non-health-care-worker
CONCLUSIONS: Compared to their national colleagues, NYS emergency department practitioners were generally more willing to offer all forms of emergency prophylaxis after sexual assault. They also reported having had more experience than other practitioners in prescribing HIV post-exposure prophylaxis. Although most practitioners were clearly willing to offer HIV post-exposure prophylaxis for nonoccupational exposures, NYS practitioners were less willing to offer emergency prophylaxis following consensual sex than after sexual assault. These findings suggest that the NYS guidelines for HIV post-exposure prophylaxis after sexual assault may have influenced emergency practitioners willingness to offer and prescribe prophylaxis.


A qualitative study, using phenomenology as an approach was conducted. The title of the study was "Exploring the fear of contracting HIV/AIDS among trauma nurses in the province of Kwazulu-Natal". Participants were selected on the basis of category (registered nurses), workplace (level one trauma units), and work experience (six months experience in a trauma unit). Twelve nurses participated in the study, six from the state institutions and six from the private institutions. The objectives of the study were to explore the fear of contracting HIV/AIDS, its effect on their personal/working lives and how they coped with it. The findings of the study revealed that trauma nurses perceived themselves to be at risk of acquiring HIV/AIDS from their working environment despite the available precautionary measures. Needlestick injuries appeared to be the main source of fear. They used different coping and defence mechanisms effectively to cope with this fear of contracting HIV and none were in any emotional crisis. Education at different levels and development of support networks has been recommended as the key strategies to decrease these fears. Other recommendations include improving the quality and availability of protective materials and equipment, making HIV/AIDS a notifiable disease as well as improving general and specific beliefs that increase coping.


Medical students face the threat of needle stick injury with the consequent risk of acquiring blood-borne infection by pathogens such as HIV, Hepatitis B and Hepatitis C while performing their clinical activities in the hospitals. A cross-sectional study was conducted among 417 final year medical students from Universiti Kebangsaan Malaysia (UKM), University Malaya (UM) and Universiti Putra Malaysia (UPM). The aims of the study were to determine the incidence of cases and episodes of needle stick injury among them in the past year. This study was also done to find out the factors that might be associated with the occurrence of this problem. The factors were sociodemographic factors, duration of exposure, level of knowledge of blood-borne diseases and Universal Precaution, perception of risk of blood-borne diseases and level of practice of Universal Precaution. The incidence of needle stick injury among medical students was 14.1% (59 cases). The total number of episodes of needle stick injury was 87 and the incidence of episodes among respondents was high i.e. 20.9%. The highest incidence of episodes of needle stick injury occurred in Obstetric & Gynaecology postings, followed by Medicine and Surgery. For clinical procedures,
venepuncture had the highest incidence followed by setting up drips and giving parenteral injections. The results showed the students who had needle stick injury (cases) had lower scores in the practice of Universal Precautions than non-cases (p<0.05). There was a significant association between the level of practice of Universal Precautions and the number of episodes of needle stick injury, i.e. the higher the score for the practice of Universal Precautions, the lower the number of episodes (beta=-2.03 x 10(-2), p<0.05). This study showed that medical students are at risk of needle stick injury and blood-borne infections during their clinical activities while performing procedures on patients especially for those who were poor at practising Universal Precautions. Therefore some preventive measures should be taken by the management of the universities and medical students to avoid the occurrence of these problems.


The objective of the study was to determine the effects of the HIV/AIDS pandemic on surgical practice in a Nigerian teaching hospital. It involved a questionnaire survey of all the doctors practising in the surgical specialties at Obafemi Awolowo University Teaching Hospital Complex, Ile-Ife, Nigeria, in order to obtain their attitudes and practices toward HIV-positive surgical patients. Sixty-five doctors were interviewed, their ages ranged from 26 years to 62 years with a mean age of 35.1 years. The majority (35.4%) were in general surgery or obstetrics and gynaecology (24.6%). Almost half (47.7%) had operated on known HIV-positive patients and the majority were in support of preoperative HIV screening. Almost all (95.4%) were worried about occupational HIV infection--a significant number of consultants would refuse to be screened if their patient were allowed to know the results (P = 0.014). The cross infection control commonly employed included adequate instrument sterilization, presurgical hand washing and the use of gloves and facemasks. The wearing of eye goggles, double gloving, indirect instrument passing and wearing of water impervious gowns were used less frequently. As HIV/AIDS infected individuals are presenting for surgical procedures in the hospital, there is a need to improve the use of universal infection control measures and to educate all categories of healthcare personnel in order to allay the fears and to prevent discrimination that could militate against effective management of HIV/AIDS patients.


The risk of accidental blood and body fluid (BBF) exposure is a daily concern for health care workers throughout the world, and various strategies have been introduced during the past decade to help reduce that risk. To assess the impact of multifocal reduction strategies introduced in hospitals affiliated with the Northern France network, we recently examined data from 4 years of BBF-exposure reports filed by network employees. A total of 7,649 BBF
Exposures were reported by health care workers to occupational medicine departments in 61 hospitals. Nurses and nursing students accounted for 4,587 (60%) of exposures, followed by nurses’ aides and clinicians. Most (77.6%) of the reports were related to needlestick injury (NSI). In addition, we examined BBF exposure trends over time by analyzing data from 18 hospitals (29.5%) with data available for the time period of 1995 to 1998. These were assessed in nurses, who have the highest and most consistent reporting rate. We noted that the BBF-exposure incidence rate for all BBF exposures in nurses decreased from 10.8 to 7.7 per 100 nurses per year between 1995 and 1998 (P < .001), whereas the NSI rate decreased 8.9 per 100 nurses per year in 1995 to 6.3 in 1998 (P < .001). The percentage of NSIs that resulted from noncompliance with universal precautions also decreased significantly (P = .04). Widespread improvements in procedures and engineering controls were implemented in the Northern France network before and during the study period. Significant reductions were observed in reports of BBF exposures and NSIs, particularly in nurses. These findings are similar to those in other countries and reflect the overall improvement in the management of occupational risk of BBF in health care workers.


Objective: To determine the usefulness of double gloves in protecting against the exposure of surgical team members’ hands to blood. Methodology: Five-hundred-ninety-six gloves were studied during 71 orthopedic operations using the water-loading test (filling a glove with water and occluding its cuff tightly to identify leaking points). Results: In all, 73 glove perforations occurred, but only nine resulted in exposure to blood (blood touching the skin). The incidence of glove perforation was 12% (73/596), and overall exposure (blood touching the skin) per operation was 13% (9/71). The latter would have been 87% (62/71) but for the use of double gloves. Sixteen percent of the perforations in double gloves were in the inner gloves, while 84% were in the outer gloves. Exposure of surgeons was reduced from 54% to 10%, first assistants from 27% to 3%, and second assistants from 7% to 0 (p < 0.02, df = 2) by double-gloving. Significantly more perforations occurred during operations on bone, compared with soft tissue operations, p < 0.0001, RR = 4 (95% CI 1.87-8.55). The most common sites of glove perforation were the index finger (47%), thumb, and the palm region: 14% each. More glove perforations occurred in nondominant hands. Conclusion: Double-gloving offers additional protection to surgeons and assistants by preventing hand exposure to blood intraoperatively.


The Smallpox Emergency Personnel Protection Act of 2003 (SEPPA), authorizes the Secretary of Health and Human Services (the Secretary), to establish the Smallpox Vaccine Injury Compensation Program ("the Program"). This program is designed to provide benefits and/or compensation to certain persons harmed as a direct result of receiving smallpox covered countermeasures, including the smallpox vaccine, or as a direct result of contracting vaccinia through certain accidental exposures. In addition, the Secretary may provide death benefits to certain survivors of individuals who died as the direct result of these injuries. On August 27, 2003, the Secretary published an interim final rule that set out a Smallpox (Vaccinia) Vaccine Injury Table ("the Table"). The table includes adverse effects (including injuries, disabilities, conditions, and deaths) within specific time periods that shall be presumed to result from the receipt of, or exposure to, the smallpox vaccine. The Secretary will use this table, as well as the procedures set out in this regulation, in deciding whether persons are eligible to receive benefits under the program. In this interim final rule, the Secretary is setting out the administrative policies, procedures, and requirements governing the program, as authorized by the SEPPA. The Secretary is seeking public comment on this interim final rule.


With respect to the indications of influenza vaccine, the US CDC guidelines are the most rational. All people aged not less than 50 years old, patients with pulmonary diseases, cardiac diseases and metabolic diseases such as diabetes mellitus, residents in old-age homes, high-risk subjects such as pregnant women, medical professionals at the position liable to infect the populations with influenza, employees of institutions, persons in charge of home care, and lodgers with high-risk patients are the subjects recommended for vaccination. There are many evidences of the efficacy of influenza vaccine in the world, and recently, it has been reported that vaccination has significantly reduced hospitalization and death due to not only influenza and pneumonia but also other diseases such as cerebrovascular diseases and cardiac diseases. Since Guillain-Barre syndrome which has been considered an adverse reaction of influenza vaccine was attributable to the swine influenza vaccine (swine type virus vaccine) used in the USA in the season from 1976 to 1977 and no incidence in the syndrome has been reported with subsequent vaccines, this syndrome does not become a reason for avoidance from vaccination in the subjects other than those with a history of the syndrome.


Complex regional pain syndrome, characterized by pain, autonomic dysfunction, and decreased range of motion, developed after hepatitis B vaccination in four grade-6 children since the introduction of the vaccination program in British Columbia in 1992. The reaction may result from injection trauma or may be secondary to a vaccine constituent.


OBJECTIVES: All dental surgeons should be protected from hepatitis B virus (HBV) infection by immunisation, ideally administered and monitored via occupational health services (OHS). This study examined relevant OHS systems in place for dental primary care healthcare workers (DHCW) across all Health Board Areas (HBAs) in Scotland. It also explored the DHCWs' knowledge of, and access to, these systems in three HBAs. METHODS: Data from senior staff in all Scottish Health Boards and Primary Care Trusts were collected by self-completing questionnaires. Information from DHCWs was collected via telephone interviews with General Dental Practitioners (GDPs) and Community Dental Officers (CDOs) in each of Ayrshire and Arran, Highland and Lothian Health Boards. RESULTS: Thirteen of the 15 HBAs had robust HBV vaccination and monitoring systems. However, only 7/15 (47%) of these covered all DHCWs. Seven HBAs provided vaccination and monitoring for CDOs only, leaving GDPs to undertake these responsibilities for themselves. Of the 105 DHCWs approached, 82 gave an interview. These interviews highlighted major differences between HBAs in relation to access of DHCWs to OHS and indicated that CDOs had greater access than GDPs to OHS. Overall, 31% of DHCWs were not satisfied with the OHS available. CONCLUSION: In order to safeguard both staff and patients, significant further work is required to ensure that all DHCWs have access to appropriate OHS support for provision and monitoring of immunisation procedures and related functions such as management of sharps injuries.

There are several lines of evidence suggesting that specific vaccine therapy with a standard hepatitis B virus (HBV) vaccination reduces HBV replication. The aim of this study was to investigate the anti-viral mechanism of vaccine therapy in chronic hepatitis B patients. Nineteen patients were assigned to receive either vaccine therapy (n = 13) or no treatment as a control (n = 6). Vaccinated patients were analyzed for T cell proliferative responses specific for envelope antigen and cytokine production by antigen-specific T cells. ELISPOT and cytotoxicity assays also were carried out for limited blood samples. Serum HBV DNA levels decreased significantly at 3 months after completion of therapy and thereafter as compared to the baseline ones, and were significantly lower in vaccinated patients than in controls at 12 and 18 months after completion of therapy. Vaccination induced antigen-specific CD4+ T cell proliferative responses in four patients (30.8%). The production of high levels of interferon-gamma (IFN-gamma) and tumor necrosis factor-alpha (TNF-alpha) by antigen-specific T cells was found in six patients (46.0%) who showed significantly lower HBV DNA levels in serum at 6 (P = 0.04) and 18 months (P = 0.005) after completion of therapy than those without high levels of cytokine production. Vaccination did not induce antigen-specific CD8+ T cells or cytotoxic T cells. These results suggest that envelope-specific CD4+ T cells may control directly HBV replication by producing anti-viral cytokines rather than providing help for cytotoxic T cells in therapeutic vaccination against chronic HBV infection.


Objective: To evaluate whether the varicella vaccine virus is detected in breast milk after vaccination of breast-feeding women and whether there is serologic evidence of exposure of the infant to varicella virus after maternal vaccination. Methods: We enrolled women identified as varicella seronegative during routine prenatal screening at Group Health Cooperative. Participants received the first dose of varicella vaccine at least 6 weeks postpartum and the second dose at least 4 weeks later. They collected ten breast milk samples after each vaccine dose. Breast milk samples were tested for varicella zoster virus by polymerase chain reaction (PCR). Serum specimens were collected from the mothers 1 month after each vaccine dose, and peripheral blood from their infants was collected onto filter spots 1 month after the mother's second dose. These samples were tested for varicella immunoglobulin (Ig) G by whole-virus enzyme-linked immunosorbent assay (ELISA), or by the more sensitive glycoprotein ELISA. When possible, filter spots from the infants were also
tested by PCR for the presence of varicella zoster virus deoxyribonucleic acid (DNA).

RESULTS: Twelve women were enrolled; all seroconverted after the first vaccine dose. Varicella DNA was not detected by PCR in any of the 217 postvaccination breast milk specimens. None of the infants was seropositive. Samples from six infants were tested for varicella zoster virus DNA by PCR, and all were negative. CONCLUSION: We found no evidence of varicella vaccine virus excretion in breast milk. These findings suggest that postpartum vaccination of varicella-susceptible women need not be delayed because of breast-feeding.


Two very successful approaches aimed at preventing infectious diseases acquired in the dental office have introduced more vigilant infection control and barrier techniques as well as the use of specific immunizations. Special consideration is given to the subgroup of dental professionals at increased risk for common diseases that may prevail because of the location and demographics of their practices. A brief review of the basic principles of immunology and immunization is covered as well as immunizations and the medically compromised oral health care worker, the medically compromised patient, new vaccines that may be in the offing, and the future role of immunization for dentists.


This review briefly summarises the recent achievements in tuberculosis epidemiology associated with the introduction of molecular methods, and considers the implications of these methods for the understanding of occupational tuberculosis transmission. Special attention is paid to the relative contribution of recently transmitted tuberculosis; risk factors for recent transmission; and the occurrence and frequency of exogenous reinfection. There is a need for occupational epidemiological studies, which should combine the methods of "classical" epidemiology with those of molecular epidemiology.

To determine factors that predispose or protect healthcare workers from severe acute respiratory syndrome (SARS), we conducted a retrospective cohort study among 43 nurses who worked in two Toronto critical care units with SARS patients. Eight of 32 nurses who entered a SARS patient’s room were infected. The probability of SARS infection was 6% per shift worked. Assisting during intubation, suctioning before intubation, and manipulating the oxygen mask were high-risk activities. Consistently wearing a mask (either surgical or particulate respirator type N95) while caring for a SARS patient was protective for the nurses, and consistent use of the N95 mask was more protective than not wearing a mask. Risk was reduced by consistent use of a surgical mask, but not significantly. Risk was lower with consistent use of a N95 mask than with consistent use of a surgical mask. We conclude that activities related to intubation increase SARS risk and use of a mask (particularly a N95 mask) is protective.

Serum samples were obtained from healthcare workers 5 weeks after exposure to an outbreak of severe acute respiratory syndrome (SARS). A sensitive dot blot enzyme-linked immunosorbent assay, complemented by a specific neutralization test, shows that only persons in whom probable SARS was diagnosed had specific antibodies and suggests that subclinical SARS is not an important feature of the disease.

Healthcare workers accounted for a large proportion of persons with severe acute respiratory syndrome (SARS) during the worldwide epidemic of early 2003. We conducted an investigation of healthcare workers exposed to laboratory-confirmed SARS patients in the United States to evaluate infection-control practices and possible SARS-associated coronavirus (SARS-CoV) transmission. We identified 110 healthcare workers with exposure within droplet range (i.e., 3 feet) to six SARS-CoV–positive patients. Forty-five healthcare workers had exposure without any mask use, 72 had exposure without eye protection, and 40 reported direct skin-to-skin contact. Potential droplet- and aerosol-generating procedures were infrequent: 5% of healthcare workers manipulated a patient’s airway, and 4% administered aerosolized medication. Despite numerous unprotected exposures, there was no serologic evidence of healthcare-related SARS-CoV transmission. Lack of transmission in the United States may be related to the relative absence of high-risk procedures or patients, factors that may place healthcare workers at higher risk for infection.

Performance testing of two brands of surgical helmets indicated that their efficiency at in vivo filtration of sub-micrometer-sized particles is inadequate for their use as respirators. These helmets are not marketed for respiratory protection and should not be used alone for protection against severe acute respiratory syndrome when performing aerosol-generating procedures.

A nosocomial outbreak of Crimean-Congo hemorrhagic fever occurred in Rawalpindi, Pakistan in February 2002. The identified index case died shortly after admission to a hospital. Two of the health care workers became secondary cases; one of them died on day 13 after coming in contact with the index case. The other secondary case was successfully treated with oral ribavirin.


Transmission of vaccinia virus after smallpox vaccination is a concern. We conducted a prospective examination of the protection afforded by vaccination-site bandages in recently vaccinated individuals. After smallpox vaccination, inoculation sites were covered with 2 occlusive dressings. Site assessment and bandage changes occurred every 35 days until the site was healed. At each visit, specimens from the vaccination site, outer dressing surface, and contralateral hand were obtained for vaccinia culture. For 148 vaccinated subjects, vaccinia was detected from vaccination lesions of every subject on several occasions. Only 6 (0.65%) of 918 dressing (95% CI, 0.24%-1.4%) and 2 (0.22%) of 926 hand (95% CI, 0.03%-0.78%) specimens tested positive for vaccinia. The mean number of bandage changes was 9.6 (95% CI, 9.17-10.0). Vaccinia autoinoculation did not occur. The rate of vaccinia recovery outside occlusive bandages covering smallpox vaccination sites was remarkably low, suggesting excellent protection against inadvertent transmission.

The risk of bloodborne disease transmission in dental settings is very low. Available data support the low risk of transmission. The rate of occupational injuries among dental health care workers has decreased over the last decade and, other than the 1990 case of HIV transmission in a dental office, there have been no additional reports of bloodborne disease.
transmission by dental health care workers. However, public policy and judicial decisions focus less on science and more on emotion. Although many infection control organizations have updated their policies to remain current with science, the USPHS’s policy remains as released in 1991. It would be prudent for these guidelines to be updated to reflect current scientific evidence and be inclusive for all bloodborne pathogens.


Aims: To identify the work factors that are related to sickness absence attributed to airway infections (AAI) in nurses’ aides.
Methods: The sample comprised 5563 Norwegian nurses’ aides, not on sick leave 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 AAI (>3 days), assessed by self reports at follow up.
Results: Working in a paediatric ward (odds ratio (OR) 2.42; 95% confidence interval (CI) 1.39 to 4.21), perceived lack of encouraging and supportive culture in the work unit (OR 1.78; 95% CI 1.21 to 2.61), and reporting medium (OR 1.52; 95% CI 1.09 to 2.12), and high levels (OR 1.60; 95% CI 1.13 to 2.26) of role conflicts at work were associated with an increased risk of AAI, after adjustments for baseline health complaints, demographic and familial factors, smoking, and a series of physical, psychological, and organisational work factors. The individual level factors male gender, smoking 10 cigarettes per day or more, having widespread pain, having had an accident related neck injury, and having long term health problems also predicted AAI.
Conclusions: In nurses’ aides, sickness absence attributed to airway infections seems to be related to the type of ward in which the aides are working, and to psychological and social work factors. Declaring airway infections as occupational diseases would have important consequences for the social security system.

4 Physical hazards/Risques physiques


AIM OF STUDY: Dosimetry data from patients and hospital personnel involved in the use of radioisotope for occult lesion localisation (ROLL) of the breast were collected to determine the need for extra radiation protection procedures. METHODS: Sixty-three patients have been enrolled to date into a randomised trial evaluating ROLL. Two megabecquerels of (99m)Tc-MAA in a syringe was mixed with X-ray contrast medium; this was injected directly into the lesion under image guidance. A gamma-detecting probe (Neo-Probe) was used to locate the area of radioactivity. Radiation doses to all staff groups were estimated using time and motion studies and dose rate measurements at a range of distances during each stage of ROLL. RESULTS: The finger dose [FD](+/-95% CI) was considered to be the critical variable for surgeons and radiologists. Surgeon FD=9.3+/-3.3 microSv, Radiologist FD=0.5+-0.13 microSv. Whole body doses [WBD](+/-95% CI) were estimated for other staff groups. Nurse WBD=0.4+-0.4 microSv, porter WBD: nil, contamination and waste: nil. CONCLUSIONS: In the case of a surgeon performing 100 procedures per annum, a FD dose of approximately 1 mSv is received, well within the annual dose limit of 150 mSv. Annual WBD to assisting staff may reach 0.04 mSv, compared to an annual limit of 6 mSv. These low doses and the lack of contamination of radioactive waste indicate that no additional radiation protection measures are required.


Information resources from a variety of governmental agencies and professional organizations are available to facilitate development of site-specific infection control programs. Using a strategic approach to organize and apply the information can result in a comprehensive and effective infection control program.

5 Chemical hazards/Risques chimiques


BACKGROUND: The program Hepascore was produced by an interdisciplinary group working in the Laboratory of Clinical Informatics of the San Giovanni Battista Hospital in Turin with the aim of supporting physicians in the early diagnosis of hepatic damage and in its qualitative and quantitative characterization. The methodology used by this program can be useful especially for investigations concerning Industrial Medicine, which intend to control the occupational risk due to environmental exposure, not only to perform an early diagnosis (secondary prevention), but also to control the temporal evolution of the disease, by comparing significant data in a reproducible way. OBJECTIVE: This study was conducted with the aim of monitoring, by using the screening protocol of Hepascore, a group of workers exposed to an occupational risk by general anaesthetics, assessing the reliability of the proposed model and comparing it to the conventional approach in a cost/effectiveness analysis. METHODS: We evaluated 280 subjects (nurses and physicians) professionally exposed to anaesthetic gas; the environmental presence of anaesthetic agents was tested in all
operating room of the hospital by the measurement of halogenated anaesthetics and nitrogen protoxide in the air. All the 280 subjects were submitted to a complete clinical evaluation and laboratory analyses, as recommended by monitoring protocols; in parallel, but independently from the clinical evaluation, also the sequential way used in the program Hepascore (a first screening phase evaluating only a few laboratory parameters, followed by a confirmation phase based on a larger number of blood tests with more restricted limits) was performed. The protocol applied in this study foresaw that subjects in which clinical evaluation and/or Hepascore brought to suspect a 'likely' liver alteration, had to be investigated thoroughly and to be reevaluated after 6 months by clinical examination and by Hepascore. RESULTS: The environmental determinations did never demonstrate the presence of anaesthetics over the threshold value (50 ppm for the N2O and 2 ppm for halogenated anaesthetics). The conventional clinical evaluation recognized as pathological 22 subjects with one or more liver parameters altered, which were explained as mild cytolytic or cholestatic alterations. The screening protocol carried out by Hepascore in the preliminary phase evidenced as pathological 38 subjects on 280 and 22 of them (corresponding to the 22 subjects identified by the clinical evaluation) were confirmed in the following phase (disease likely). CONCLUSIONS: This fact confirms that the sequential approach used by Hepascore provides the same outcomes obtained by performing all tests in the entire population under study, allowing a saving of 57% of the total cost spent for the traditional evaluation. The sequential approach proposed by Hepascore could be employed in all the clinical settings in which an evaluation of liver functional state is required, both in presence of environmental risk factors and in the case of a programme for the optimization of the population's food habits.


Aims: To investigate the effects of a single period of night duty on measures of attention and working memory in a group of residents (registrars) in anaesthesiology. Emphasis was placed on individual deficits using a reference point of the equivalent effect of a blood alcohol concentration (BAC) >0.05% determined by other researchers.

Methods: There were 33 subjects aged 26–42 years. Night duty was performed on a weekly basis. Baseline assessments were conducted at either 08 15 or 08 55 preceding night duty and repeated 24–25 hours later, just after the completion of duty. Questionnaires included items regarding duration of sleep and the Stanford Sleepiness Scale. A battery of four reaction time (RT) tasks of increasing difficulty, lasting approximately 35 minutes, was administered on a personal computer. These ranged from simple RT to progressively more complex RT tasks incorporating working memory. A significant change was regarded as >15% deterioration in respect of speed or accuracy.

Results: The mean duration of sleep preceding night duty was 7.04 hours and 1.66 hours during the period of night duty. Intergroup comparisons revealed significant prolongation in mean response speed in the first three tests. Mean accuracy was significantly reduced only in respect of the two more complex tests. A >15% deterioration in response speed occurred in up to 30% of subjects on a single task, rising to 52% (17/33) overall. Deterioration occurred in a patchy distribution in most subjects, involving no more than one or two of the four tasks. As regards accuracy, the prevalence of deterioration increased with task complexity.

Conclusions: Results are in general agreement with previous group analyses. A new dimension was added by the analysis of a broad spectrum of individual response to sleep deprivation. The effects of sleep loss in residents cannot be overlooked, even in a relatively benign work schedule.
5.2 Antineoplastic


BACKGROUND: Widespread use of antineoplastic drugs has led to higher health risks of personnel who prepare and administer these drugs. The short-term, non-specific health effects in nurses handling antineoplastic drugs (AND) have been documented. OBJECTIVES: To establish work practices and preventive measures for nurses handling antineoplastic drugs and to determine the risk of developing symptoms. METHODS: In eight Belgrade hospitals, 263 nurses were selected (response rate 90.1%) for the study. Among these, 186 were involved in preparation and administration of AND, and 77 were not exposed. Data on exposure, work practice, safety precautions, and symptoms were obtained via a questionnaire. The mean age of exposed nurses was lower than in a control group (35 vs. 39 yrs). RESULTS: Only 38% of all nurses used vertical laminar safety cabinets while mixing AND, 82% used gloves, and 57% masks. Special medical rooms for mixing AND, written instructions and special containers for waste material were available only sporadically. No exposure monitoring had ever been performed in any hospital or department. Periodic medical check-ups were rare (24.7% of all nurses). In exposed nurses ORs adjusted for age, smoking habit and shift work were significantly elevated for almost all symptoms, mostly for the following: hair loss (OR = 7.14), skin rash (OR = 4.70), and light-headedness (OR = 4.33), as well as the disappearance of symptoms during the weekend (OR = 4.78). The mean number of symptoms revealed an exposure-effect relationship, with the highest number of symptoms in daily exposed nurses and lowest in non-exposed nurses (6.3 vs. 3.1) (p < 0.001). CONCLUSIONS: Our results indicate without doubt that exposed nurses reported more symptoms than non-exposed nurses, an effect that was not dependent on age, smoking, or night shift. The use of safety precautions was inadequate and reflected the lack of awareness of potential hazards due to occupational exposure to AND.


We recently carried out a study of two UK hospital pharmacy units preparing cytotoxic drugs using isolators that showed low level contamination on floor surfaces and disposable gloves worn by staff. It has been suggested that this level of contamination may be related to some level of contamination on the drug vials as delivered from manufacturers rather than leakage from the isolators. We have investigated the level of cytotoxic drug contamination on the external surfaces of the drug vials as delivered to a hospital pharmacy stores. We monitored 30, randomly chosen vials for the drugs cisplatin, carboplatin, cyclophosphamide, ifosfamide and methotrexate using well-established methods. A 0.5 m² floor area directly in front of the shelves used for storing the cytotoxic drugs was also wipe sampled and the disposable gloves worn while wiping the vials for each drug were also analysed. A significant number of vials had a quantifiable level of external contamination. Levels of contamination up to 344 ng/vial were found. Levels of glove and floor contamination for some drugs were found to be comparable with values found in our study of the clean rooms where the isolators were situated and the pharmacy staff prepared the cytotoxic drugs.

6 Allergy/Allergies


This brief review of natural-rubber latex (NRL) allergy in health care workers (HCWs) includes the definition of NRL allergy and data on its epidemiology, pathogenesis, diagnostic algorithm, management, long-term outcomes, economic impact, cost-effectiveness of changing facilities to a latex-free environment, and prevention. The data presented suggest that an individual with type I or type IV hypersensitivity to NRL should be able to continue to work in the workplace with careful evaluation and reasonable accommodations. Reducing exposure to latex is a safe and more economical alternative to complete removal of the individual from the place of employment. The use of low-allergen, nonpowdered NRL gloves substantially reduces airborne exposure to latex in most health care settings.

7 **Infection Control/Hygiène**


Mupirocin has been used in nursing homes to prevent the spread of methicillin-resistant Staphylococcus aureus (MRSA), despite the lack of controlled trials. In this double-blind, randomized study, the efficacy of intranasal mupirocin ointment versus that of placebo in reducing colonization and preventing infection was assessed among persistent carriers of S. aureus. Twice-daily treatment was given for 2 weeks, with a follow-up period of 6 months. Staphylococcal colonization rates were similar between residents at the Ann Arbor Veterans Affairs (VA) Extended Care Center, Michigan (33%), and residents at a community-based long-term care facility in Ann Arbor (36%), although those at the VA Center carried MRSA more often (58% vs. 35%; P = .017). After treatment, mupirocin had eradicated colonization in 93% of residents, whereas 85% of residents who received placebo remained colonized (P < .001). At day 90 after study entry, 61% of the residents in the mupirocin group remained decolonized. Four patients did not respond to mupirocin therapy; 3 of the 4 had mupirocin-resistant S. aureus strains. Thirteen (86%) of 14 residents who became recolonized had the same pretherapy strain; no strain recovered during relapse was resistant to mupirocin. A trend toward reduction in infections was seen with mupirocin treatment.


The current literature indicates that surgical-site infections significantly increase costs and length of stay. Nosocomial infections that are acquired after operative procedures increase mortality rates. Staphylococcus aureus is a major cause of surgical-site infections among patients, particularly patients who undergo cardiothoracic surgery. Patients who carry S. aureus in their nares are at increased risk for surgical-site infections that are caused by this organism. Occasionally, health care workers who carry S. aureus in their nares can cause outbreaks of surgical-site infections or other nosocomial infections. Persons who carry S. aureus in their nares and have upper respiratory tract infections may spread this organism to numerous staff members and patients. Key measures for decreasing rates of these and other nosocomial infections include the appropriate use of prophylactic antimicrobial agents,
surveillance and reporting of infections, and surveillance for clusters of infection caused by the same strain of S aureus and culture and surveys, when appropriate, to help identify infected health care workers. Additionally, surgical masks may prevent health care workers from inadvertent transmission of S aureus from their nares to patients' surgical sites.

8 Stress - Mental disorders/Stress - psychopathologie


Variations in the state of momentary emotions of Brazilian hospital nurses on day and night shifts were recorded. Ten graduate nurses working on day and night shifts in the clinical ward of hospitals completed the Present Mood States List of Engelmann at the beginning and end of the first and last days of each shift. Analysis indicated (a) nurses had a stable emotional profile, present at the working shift, and (b) variations in present mood states related to specific effects of shift work were observed when comparisons were made between the present mood states at the beginning and end of each shift duty.


Talking about stress implies that we are talking about two things: an event and a response to that event. The 2003 SARS outbreak was an extraordinary event in the life of Ontario hospitals, especially around Toronto, and in the lives of the healthcare workers.


OBJECTIVES: Differences between the sexes in the manifestation of burnout have been reported for different occupational groups. Although some gender-specific explanations for this finding have been forwarded, there is a paucity of studies in which the relation with other work-related gender differences is examined. The objective of this study was to analyze gender differences in burnout among dentists and to identify possible concomitant factors. METHODS: Male (n = 411) and female (n = 81) Dutch dentists filled out the Dutch version of the Maslach Burnout Inventory (MBI) together with several health and work-related questionnaires. RESULTS: Results showed male dentists to report a higher score on the depersonalization dimension of the MBI than did female dentists. No gender differences were found on the other dimensions (i.e. emotional exhaustion and personal accomplishment). Moreover, no gender-related differences in experienced work-stress or health-related aspects were found. It was found, however, that male dentists put in working hours and see more patients per week when compared to female dentists. Also, a difference in mean age was found. Our main finding was that the difference in depersonalization disappears when controlling for working hours and age. CONCLUSIONS: Gender differences in burnout among dentists do exist. However, our results indicate that underlying factors, such as working hours, have a profound effect on these differences. These results can have direct practical consequences, for instance, in distinguishing between groups concerning the way burnout scores should be interpreted.

**BACKGROUND:** It is well recognized that dentistry is a stressful profession. However, there are conflicting views about the extent to which such stress contributes to hazardous drinking among dentists. In addition, the relative contributions of stress and pre-existing vulnerability in predicting alcohol problems among dentists generally (and Australian dentists in particular) have yet to be determined. **METHODS:** The levels of stress and alcohol consumption of 312 South Australian dentists were measured. Factors known to mediate vulnerability to alcohol disorders were also assessed with appropriate psychometric instruments. **RESULTS:** High levels of stress/burnout, consistent with other studies of dentists' stress, were recorded. Hazardous levels of alcohol consumption, which were between two and four times higher than the normative South Australian population, were also reported, particularly among males and rural dentists. **CONCLUSIONS:** To a significant extent, stress and hazardous alcohol consumption are both present among South Australian dentists. However, compared with work stress/burnout, existing personal vulnerability factors are much stronger predictors of such hazardous alcohol consumption. We suggest that professional dental bodies, and state Dental Boards, may play a role in ensuring stress inoculation and guidance on safe limits of alcohol consumption for dentists-in-training; and in creating appropriate mechanisms for assisting dentists who experience alcohol related difficulties.

9 **Violence/Violence**


1. Forensic nurses frequently work in violent settings without regard for self-preservation to save the lives of injured individuals or investigate the deaths of deceased individuals. 2. Cases involving children and victims with disfiguring injuries, and incidents when their personal safety was compromised are most disturbing to forensic nurses. 3. Providing means for health care professionals to cope appropriately encourages healthy healing. 4. Forensic nurses must learn to self-assess and recognize the signs and symptoms associated with unhealthy coping, depression, or posttraumatic stress disorder.

10 **Other/Autre**


**AIMS:** To identify the work factors that are related to sickness absence attributed to airway
infections (AAI) in nurses' aides. METHODS: The sample comprised 5563 Norwegian nurses' aides, not on sick leave 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 AAI (>3 days), assessed by self reports at follow up. RESULTS: Working in a paediatric ward (odds ratio (OR) 2.42; 95% confidence interval (CI) 1.39 to 4.21), perceived lack of encouraging and supportive culture in the work unit (OR 1.78; 95% CI 1.21 to 2.61), and reporting medium (OR 1.52; 95% CI 1.09 to 2.12), and high levels (OR 1.60; 95% CI 1.13 to 2.26) of role conflicts at work were associated with an increased risk of AAI, after adjustments for baseline health complaints, demographic and familial factors, smoking, and a series of physical, psychological, and organisational work factors. The individual level factors male gender, smoking 10 cigarettes per day or more, having widespread pain, having had an accident related neck injury, and having long term health problems also predicted AAI. CONCLUSIONS: In nurses' aides, sickness absence attributed to airway infections seems to be related to the type of ward in which the aides are working, and to psychological and social work factors. Declaring airway infections as occupational diseases would have important consequences for the social security system.


Dentistry's role in responding to bioterrorism and other catastrophic events is evolving and may involve a wide range of activities. Organized dentistry, local dental societies, and interested individuals should make local emergency response planners aware of the services the dental profession can provide and should work to integrate dental resources to strengthen the disaster response capacity of community health care systems. With effective planning, education, and training, dentists can play a significant role in responding to acts of bioterrorism or other unforeseen events.


OBJECTIVES: The aim of the work was to evaluate the incidence of occupational skin diseases in nurses, their morbidity rate, symptoms, possible causes and relation with occupational environment. MATERIALS AND METHODS: The study group consisted of 706 nurses of different hospital departments. A questionnaire and collection of information about the use of disinfectants were the main investigation methods. RESULTS: It was revealed that 47.3% nurses were suffering from occupational skin diseases. Allergic contact dermatitis was found to be the most frequent (28.5%) disease. Irritant contact dermatitis of non-allergic origin was diagnosed in 8.4% of nurses. The main symptoms of occupational skin diseases were itching and reddening. CONCLUSION: The risk of developing occupational dermatitis was increased by working with aldehydes and hydrogen peroxide as well as by using latex gloves and long working hours.

Background: Obesity poses a considerable and growing health burden. This review examines evidence for screening and treating obesity in adults.

Data Sources: MEDLINE and Cochrane Library (January 1994 through February 2003).

Study Selection: Systematic reviews; randomized, controlled trials; and observational studies of obesity's health outcomes or efficacy of obesity treatment.

Data Extraction: Two reviewers independently abstracted data on study design, sample, sample size, treatment, outcomes, and quality.

Data Synthesis: No trials evaluated mass screening for obesity, so the authors evaluated indirect evidence for efficacy. Pharmacotherapy or counseling interventions produced modest (generally 3 to 5 kg) weight loss over at least 6 or 12 months, respectively. Counseling was most effective when intensive and combined with behavioral therapy. Maintenance strategies helped retain weight loss. Selected surgical patients lost substantial weight (10 to 159 kg over 1 to 5 years). Weight reduction improved blood pressure, lipid levels, and glucose metabolism and decreased diabetes incidence. The internal validity of the treatment trials was fair to good, and external validity was limited by the minimal ethnic or gender diversity of volunteer participants. No data evaluated counseling harms. Primary adverse drug effects included hypertension with sibutramine (mean increase, 0 mm Hg to 3.5 mm Hg) and gastrointestinal distress with orlistat (1% to 37% of patients). Fewer than 1% (pooled samples) of surgical patients died; up to 25% needed surgery again over 5 years.

Conclusions: Counseling and pharmacotherapy can promote modest sustained weight loss, improving clinical outcomes. Pharmacotherapy appears safe in the short term; long-term safety has not been as strongly established. In selected patients, surgery promotes large amounts of weight loss with rare but sometimes severe complications.


This statement summarizes the current U.S. Preventive Services Task Force (USPSTF) recommendations on screening for thyroid disease and updates the 1996 recommendations on this topic. The complete USPSTF recommendation statement on this topic, which includes a brief review of the supporting evidence, is available through the USPSTF Web site (http://www.preventiveservices.ahrq.gov) and the National Guideline Clearinghouse (http://www.guideline.gov).

11 Documents en Français

Arrêté du 24 novembre 2003 relatif aux emballages des déchets d'activités de soins à risques infectieux et assimilés et des pièces anatomiques d'origine humaine J.O n° 298 du 26 décembre 2003 page 22167
http://www.legifrance.gouv.fr/WAspad/Visu?cid=348887&indice=1&table=jorf&ligneDebut=1

Traitement hormonal substitutif: mise à jour des recommandations
Info Afssaps
3 décembre 2003
http://afssaps.sante.fr/htm/10/ths/sommaire.htm
...
Chez les femmes en bonne santé qui ne présentent pas de syndrome climatérique, ni de facteur de risque d’ostéoporose, l’administration d’un THS n’est pas recommandée en raison d’un rapport bénéfice/risque défavorable.

Chez les femmes souffrant de troubles du climatère avec un retentissement sur leur qualité de vie, un THS peut être instauré si la femme le souhaite, à la dose minimale efficace, pour une durée la plus courte possible, avec une information claire sur les risques et une réévaluation régulière du rapport bénéfice/risque. Cette ré-évaluation pourra s'accompagner d'une suspension temporaire du traitement afin de contrôler la persistance du syndrome climatérique et sa sévérité.

Dans la prévention de l’ostéoporose, le THS ne doit pas être prescrit en première intention. C’est seulement, chez les femmes ayant un risque fracturaire élevé que l’administration d’un THS pourra être envisagée, si celles-ci présentent une intolérance à un autre traitement indiqué dans cette situation, et ce, après une évaluation individuelle du rapport bénéfice/risque.

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