Objectif
L'objectif de ce travail est de fournir un outil de veille aux médecins du travail concernant les nouvelles connaissances scientifiques relative à la santé au travail des personnels de soins. La priorité est donnée aux documents en français. Ce travail est réalisé par les documentalistes de l'équipe CISMef et le service de médecine du travail et de pathologie professionnelle du CHU de Rouen (Dr JF Gehanno), dans le cadre d'un projet financé par la CNRACL (Caisse Nationale de Retraites des Agents des Collectivités Locales). Les résultats proposés sont issus de la surveillance mensuelle d'une sélection de périodiques, de sites Internet d'organismes spécialisés et des bases de données CISMef, PubMed et BDSP.
La veille juridique est réalisée par l'ISTNF (Institut de santé du nord de la France).
Pour obtenir un document, vous pouvez vous adresser à la BIUM (http://www.bium.univ-paris5.fr/) ou à l'INIST-CNRS (http://www.inist.fr/).
Sommaire

1. Allergies ................................................................. p.3
2. Bonnes pratiques
3. Conditions de travail et santé psychologique ......................... p.4
4. Hygiène et gestion des risques ............................................ p.9
5. Infections nosocomiales ...................................................... p.10
6. Risques biologiques .......................................................... p.10
   6.1 Accident d'exposition au sang ....................................... p.13
   6.2 Contamination soignant-soigné ...................................... p.18
   6.3 Transmission aérienne
   6.4 Transmission de contact
   6.5 Vaccination .............................................................. p.19
7. Risques chimiques ............................................................ p.21
8. Risques physiques ........................................................... p.21
   8.1 Rayonnements ionisants ............................................... p.22
   8.2 Troubles musculo-squelettiques .................................... p.26
9. Violence .............................................................................. p.29
10. Autres ................................................................................ p.30
Veille juridique ........................................................................ p.32
1. Allergies

- Documents en anglais :

**Comparing the level of dexterity offered by latex and nitrile SafeSkin gloves.**

Sawyer J, Bennett A.

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An increase in the occurrence of latex allergy has been concurrent with the increasing use of latex gloves by laboratory and healthcare workers. In recent years nitrile gloves have been used to replace latex gloves to prevent latex allergy. Nitrile gloves offer a comparable level of protection against chemical and biological agents and are more puncture resistant. However, if manual dexterity is compromised by nitrile gloves to a greater degree than latex then this may increase the risk of sharps injuries. The Purdue pegboard test, which measures both gross and fine finger dexterity, was used to test the dexterity levels of two glove types used at HPA CEPR; Kimberly-Clark SafeSkin nitrile and latex laboratory gloves. There was a statistically significant 8.6% increase in fine finger dexterity provided by latex compared with nitrile SafeSkin laboratory gloves but no difference in gross dexterity between the glove types. There was no significant relationship between glove dexterity and age or gender. The selection of glove size was influenced by the digit length of participants. Moreover, those with longer, thinner fingers appeared to have an advantage when using nitrile SafeSkin gloves. The level of dexterity provided by latex and nitrile SafeSkin gloves for tasks on a gross dexterity level are comparable and health workers will benefit from the non-allergenic properties of nitrile. For tasks requiring fine finger dexterity nitrile SafeSkin gloves may impede dexterity. Despite this, the degree of restriction appears to have a negligible impact on safety in this study when compared with the risk of latex sensitization and subsequent allergy. In addition to glove material, working practices must also take into account glove size, fit, grip and thickness, as these factors can all influence dexterity.


Substances: - Latex - Nitriles

Publication Types: Evaluation Studies

**Latex allergen IgE assays in the assessment of Veterans Affairs health care workers.**

Zeiss CR, Kurup VP, Elms N, Fink JN.

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**BACKGROUND:** A previous multicenter study of Veterans Affairs health care workers evaluated hospital participants for latex hypersensitivity. Well-defined groups from that study allowed us to explore the diagnostic utility of newer antilatex allergen IgE immunoassays in the present study.

**OBJECTIVES:** To determine whether an enhanced CAP (ENHCAP) assay or an enzyme-linked immunosorbent assay (ELISA) identifies latex glove symptomatic individuals with antilatex allergen IgE that had not been detected by the CAP assay used in the original study and to determine the specificity of the ENHCAP assay. **METHODS:** The ELISA measured IgE antibody to Malaysian nonammoniated natural rubber latex extract (MNA), Hev b1, Hev b5, and Hev b6. Four patient groups were tested: confirmed latex glove allergic, latex glove symptomatic, latex glove symptomatic, latex glove sensitized/asymptomatic, and latex glove nonallergic. **RESULTS:** The ENHCAP assay and the MNA ELISA were highly concordant with the original CAP assay. In the subgroup with latex glove symptoms that were previously negative by the CAP assay, the ENHCAP assay value was elevated in 7 (11%) of 64 samples, only 3 of which were class 2 or higher. The MNA ELISA result was positive in only 4 (6%) of these 64 samples, and 3 of these were fractionally above the cutoff value for this assay.

**CONCLUSIONS:** The ENHCAP assay and the MNA ELISA identified a few additional positive individuals in the group that was latex glove symptomatic and originally CAP assay negative. The ENHCAP assay and the MNA ELISA produced only a modest improvement in diagnostic sensitivity over that of the original CAP assay.

Substances: Antigens, Plant - Latex - Immunoglobulin E
Publication Types: Evaluation Studies

2. Bonnes pratiques

3. Conditions de travail et santé psychologique

- Documents en français :

L'INFIRMIERE MAGAZINE, vol. 216, suppl., p.7-11, 05/2006
Dossier : locaux à réhabiliter.
ESTRYN BEHAR (M.), LE NEZET (O.), BEN BRIK (E.), et al.
Pénurie, manque de reconnaissance, relations tendues, pathologies très lourdes, horaires contraignants...
Comme le montre l'étude Presst, le travail dans les hôpitaux locaux tient de la gageure... (R.A.).
Mots-clés BDSP : Travail, Hôpital local, Epuisement professionnel, Charge travail, Plainte, Rôle du professionnel

In Archives des maladies professionnelles et de médecine du travail, vol 67, n 3, juin 2006, p. 539 - 540
Évaluation du risque cardio-vasculaire, de l'état nutritionnel et des conditions de travail au CHU de Limoges
M. Druet-Cabanac, D. Walocha, P. Lacroix, JC. Desport, F. Archambeaud-Mouveroux, A. Prado-Jean, D. Dumont
Evaluer le risque cardio-vasculaire, l'état nutritionnel, les conditions de travail et proposer un conseil et des mesures de prévention en cas de mise en évidence d'un risque pour les personnels âgés de plus de 35 ans travaillant au CHU de Limoges.

REVUE DE L'INFIRMIERE, vol. 121, p.35-37, 05/2006
L'épuisement professionnel des soignants.
GUIMELCHAIN BONNET (Michèle), MACREZ (Pascal)
Fréquent dans la relation d'aide, l'épuisement professionnel a essentiellement été étudié dans les services de réanimation et de soins palliatifs.
Après avoir rappelé l'historique de cette notion, les auteurs décrivent les manifestations cliniques, répertorient les causes qui sont à rechercher dans la disproportion entre exigences professionnelles et besoins personnels puis ils passent en revue les réponses apportées par l'institution, les cadres soignants, l'équipe et le patient lui-même.
Mots-clés BDSP : Hôpital, Organisation travail, Epuisement professionnel, France, Psychopathologie

Compte rendu des Sociétés

- Documents en anglais :

A qualitative examination of a spiritually-based intervention and self-management in the workplace.
Richards TA, Oman D, Hedberg J, Thoresen CE, Bowden J.
Public Health Institute, Oakland, California, USA.
This qualitative study assesses the experience of an intervention that provided spiritually based self-management tools to hospital-based nurses. Drawing on wisdom traditions of the major world religions, the eight point program can be practiced by adherents to any religious faith, or those outside of all traditions. Five of eight program points were perceived as directly useful in improving the nurses' workplace interactions and enhancing fulfillment of compassionate caregiving missions. The findings suggest that this program can be an effective intervention among nurses in dealing with the demands of the healthcare environment and may be a resource for continuing education curricula.
MeSH Terms: Adaptation, Psychological - Adult - Attitude of Health Personnel* - Burnout, Professional/prevention & control* - Burnout, Professional/psychology - Colorado - Empathy - Female - Humans - Meditation/methods* - Meditation/psychology - Middle Aged - Nursing Methodology Research - Nursing Staff, Hospital/education - Nursing Staff, Hospital/psychology* - Nursing Theory - Occupational Health - Philosophy, Nursing - Program Evaluation - Qualitative Research - Questionnaires - Religion and Psychology - Research Support, N.I.H., Extramural - Research Support,
Defining and addressing moral distress: tools for critical care nursing leaders.
Rushton CH.
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Nurse clinicians may experience moral distress when they are unable to translate their moral choices into moral action. The costs of unresolved moral distress are high; ultimately, as with all unresolved professional conflicts, the quality of patient care suffers. As a systematic process for change, this article offers the AACN's Model to Rise Above Moral Distress, describing four A's: ask, affirm, assess, and act. To help critical care nurses working to address moral distress, the article identifies 11 action steps they can take to develop an ethical practice environment.

Level of burnout among nurses working in oncology in an Italian region.
Quattrin R, Zanini A, Nascini E, Annunziata M, Calligaris L, Brusaferro S.
School of Medicine, University of Udine, Italy. r.quattrin@med.uniud.it
PURPOSE/OBJECTIVES: To estimate the level of burnout among nurses working on oncology wards and to identify the risk factors of burnout and the strategies used to prevent and deal with stress. DESIGN: Descriptive study. SETTING: Oncology wards in public hospitals in a northeastern Italian region. SAMPLE: 100 nurses working on oncology wards. METHODS: Head nurses of the oncology wards were personally informed about the aims of the study and were asked to distribute a questionnaire among the staff nurses and collect them after completion. The questionnaire had 58 items divided into three parts: sociodemographic and job characteristics of the population, the Maslach Burnout Inventory modified for Italian healthcare workers, and the respondents' perceptions about coping mechanisms and strategies adopted by the organization to help the nurses cope with stress. MAIN RESEARCH VARIABLES: Levels of burnout according to the Maslach Burnout Inventory. FINDINGS: The global response rate was 71% (100 of 140); 35% of the nurses had a high level of emotional exhaustion, 17% had a high level of depersonalization, and 11% had a high level of personal achievement. Significantly high levels of emotional exhaustion were found in nurses older than 40 with a working seniority of more than 15 years, those who had chosen to work on an oncology ward, and those who wanted another work assignment. The mean emotional exhaustion in subjects who identified lack of coordination (disorganization) as an important cause of stress was 24.5 (SD = 10.6), whereas the mean score in the nurses who did not cite disorganization as a cause of stress was 18.3 (SD = 12.0). CONCLUSIONS: An important cause of stress reported by nurses is poor organization; therefore, hospitals should focus attention on specific organizational aspects. IMPLICATIONS FOR NURSING: Knowledge of the mechanisms of burnout and strategies to prevent and deal with them are important for nurses' psychophysical health and constitute a fundamental requirement in a policy that aims to improve quality in health services.

Nurses' lived experiences of moral stress support in the intensive care context.
Cronqvist A, Lutzen K, Nystrom M.
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The aim of this study was to analyse and describe lived experiences of support in situations characterized by critical care situations and moral stress in intensive care nursing. An exploratory interpretative study was conducted. Data consisted of interviews with 36 nurses from different types of intensive care units. The first level of analysis of data identified contextual factors, such as type and...
purpose of support and working conditions. On the next level of analysis five tentative interpretations were identified: (1) receiving organized support is a matter of self-determination, (2) whether to participate in organized support or to be off duty are experienced as mutually exclusive, (3) dealing with moral stress is experienced as a private matter, (4) colleagues managing moral stress serve as models in stress support and (5) not being able to deal with moral stress urges one to seek outside support. A comparison of these interpretations identified three major themes: availability, accessibility and receptivity of support. The main interpretation and conclusion were: lived experience of moral stress support involves an interconnectedness between structural and existential factors. Thus, adequate moral stress support presupposes an allowable professional climate and access to caring supervision.

MeSH Terms: Adaptation, Psychological - Attitude of Health Personnel* - Burnout, Professional/prevention & control* - Burnout, Professional/psychology - Communication - Existentialism/psychology - Female - Humans - Intensive Care/*organization & administration - Intensive Care*/psychology - Interprofessional Relations - Leadership - Loneliness/psychology - Male - Morals* - Nurse Administrators/organization & administration - Nurse Administrators/psychology - Nursing Methodology Research - Nursing Staff, Hospital/ethics - Nursing Staff, Hospital/organization & administration - Nursing Staff, Hospital/psychology* - Occupational Health - Organizational Culture - Peer Group - Personal Autonomy - Questionnaires - Research Support, Non-U.S. Gov't - Social Support* - Sweden - Workplace/organization & administration - Workplace/psychology


Predictors of burnout and job satisfaction among Turkish physicians.
Ozyurt A, Hayran O, Sur H.
Marmara University, Faculty of Health Education (Saglik Egitim Fakultesi), E-5 Yanyol, 81420 Cevizli/Istanbul, Turkey.

BACKGROUND: Burnout is associated with decreased job performance and low career satisfaction. It has a special significance in health care, where staff experience both psychological-emotional and physical stress. AIM: To investigate levels of job satisfaction and burnout among Istanbul physicians, and the relationships between demographic characteristics, job characteristics, job satisfaction and burnout. DESIGN: Questionnaire-based survey. METHODS: We collected data from a randomly selected sample group of 598 physicians from different health-care institutions in Istanbul. A questionnaire regarding sociodemographic characteristics of the physicians, the Maslach Burnout Inventory (MBI) and the Minnesota Job Satisfaction Questionnaire (MSQ) were all administered during face-to-face interviews. RESULTS: Job satisfaction was inversely correlated with emotional exhaustion and depersonalization, and positively correlated with personal accomplishment. Under multilevel regression, the most significant and common predictors of all burnout dimensions and job satisfaction were the number of vacations at individual level, and public ownership of healthcare facilities at group level. Number of shifts per month was also a significant predictor of all burnout dimensions. DISCUSSION: Organizational efforts aimed at increasing the level of job satisfaction among physicians could help to prevent burnout.

MeSH Terms: Adult - Burnout, Professional/psychology* - Cross-Sectional Studies - Depersonalization - Female - Humans - Job Satisfaction* - Male - Medical Staff/psychology* - Middle Aged - Physicians/psychology* - Research Support, U.S. Gov't, Non-P.H.S. - Stress, Psychological - Turkey - Workload


Replication and examination of research data on job stress and coworker social support with Internet and traditional samples.
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PURPOSE: To replicate previous results about job stress and coworkers' support that were obtained from a Web-based American sample with a sample of Jordanian nurses using traditional methods.

DESIGN AND METHODS: The convenience sample of 300 Jordanian staff nurses completed the pencil-and-paper version of a questionnaire that included the Nursing Stress Scale, the McCain and Marklin Social Integration Scale, and the demographic form. The sample of the replicated study consisted of 263 American staff nurses who were accessible over the Internet and completed the Web-based version of the questionnaire. Descriptive statistics, chi-square, t test, and Pearson product-moment correlations were used to analyze the data. RESULTS: The American and Jordanian samples differed significantly on all demographic variables. However, they had similar patterns of responses in regard to the association between job stress and social support from coworkers. CONCLUSIONS: The predicted comparability of findings with different methods and samples lends credence to the reliability and validity of Internet-based research.

MeSH Terms: Adult - Burnout, Professional/prevention & control* - Comparative Study - Data Collection/methods* - Female - Humans - Internet* - Interprofessional Relations* - Jordan - Male -
Self-assessed quality of sleep, occupational health, working environment, illness experience and job satisfaction of female nurses working different combination of shifts.

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AIM: The aim of this study was to describe and compare the self-assessed quality of sleep, occupational health, working environment, illness experience and job satisfaction among female nurses working different combinations of shifts. BACKGROUND: Evidence from several studies indicates that there is an association between the disruption of the circadian cycle caused by shift work and adverse health effects. METHODS: A cross-sectional design was used with a sample of 348 nurses from the registry of the Icelandic Nurses' Association, representing 17% of the workforce of Icelandic nurses. A self-administered questionnaire, measuring occupational health, quality of sleep, the illness experience, job satisfaction and working environment was used. Data were analysed according to type of shift (days only, rotating days/evenings, rotating days/evenings/night shifts) by use of analysis of variance and chi-square. RESULTS: No difference was found between participants based on type of shift with regard to the illness experience, job satisfaction and quality of sleep. Nurses working rotating day/evening/night shifts reported a longer working day, more stressful environmental risk factors, more strenuous work and that they were less able to control their work-pace. In general, the nurses reported low severity of symptoms; however, nurses working rotating days/evenings shifts experienced more severe gastrointestinal and musculoskeletal symptoms when compared with others. This was explained by the short rest period provided for between evening and morning shifts.

CONCLUSIONS: In general Icelandic nurses are satisfied with their work and their shift assignment does not seem to pathologically disrupt their circadian cycle. Nevertheless, nursing directors are advised to look more closely at the organization of nurses' work during night shifts, as well as the rest period for nurses changing from evening to day shifts.


The impact of nursing work environments on patient safety outcomes: the mediating role of burnout/engagement.

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OBJECTIVE: To test a theoretical model of professional nurse work environments linking conditions for professional nursing practice to burnout and, subsequently, patient safety outcomes.

BACKGROUND: The 2004 Institute of Medicine report raised serious concerns about the impact of hospital restructuring on nursing work environments and patient safety outcomes. Few studies have used a theoretical framework to study the nature of the relationships between nursing work environments and patient safety outcomes. METHODS: Hospital-based nurses in Canada (N = 8,597) completed measures of worklife (Practice Environment Scale of the Nursing Work Index), burnout (Maslach Burnout Inventory-Human Service Scale), and their report of frequency of adverse patient events. RESULTS: Structural equation modeling analysis supported an extension of Leiter and Laschinger's Nursing Worklife Model. Nursing leadership played a fundamental role in the quality of worklife regarding policy involvement, staffing levels, support for a nursing model of care (vs medical), and nurse/physician relationships. Staffing adequacy directly affected emotional exhaustion, and use of a nursing model of care had a direct effect on nurses' personal accomplishment. Both directly affected patient safety outcomes. CONCLUSIONS: The results suggest that patient safety outcomes are related to the quality of the nursing practice work environment and nursing leadership's role in changing the work environment to decrease nurse burnout.

MeSH Terms: Adult - Alberta/epidemiology - Burnout, Professional/prevention & control - Cross-Sectional Studies - Factor Analysis, Statistical - Female - Health Facility Environment - Hospital Restructuring - Humans - Iatrogenic Disease/epidemiology - Leadership - Male - Middle Aged - Models, Nursing - Models, Theoretical - Nursing Staff, Hospital/organization & administration - Nursing Staff, Hospital/psychology - Ontario/epidemiology - Personnel Staffing and Scheduling -
**Research Support, N.I.H., Extramural - Safety Management**

**Publication Types: Multicenter Study**


**Work factors as predictors of persistent fatigue: a prospective study of nurses' aides.**

**Eriksen W.**

**Institute of General Practice and Community Medicine, University of Oslo, Oslo, Norway.**

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**OBJECTIVES:** To identify work factors that predict persistent fatigue in nurses' aides. **METHODS:** The sample comprised 5547 Norwegian nurses' aides, not on leave when they completed a mailed questionnaire in 1999. Of these, 4645 (83.7%) completed a second questionnaire 15 months later. The outcome measure was the occurrence of persistent fatigue, defined as having felt "usually fatigued" or "always fatigued" in daytime during the previous 14 days. **RESULTS:** In respondents without persistent fatigue at baseline, medium and high work demands, heavy smoking, being single, and having long term health problems were associated with increased risk of persistent fatigue at follow up. Medium and high rewards for well done work, medium levels of leadership fairness, and regular physical exercise were associated with reduced risk of persistent fatigue at follow up. In respondents with persistent fatigue at baseline, medium and high levels of positive challenges at work, high support from immediate superior, medium feedback about quality of one's work, and changes of work or work tasks that resulted in less heavy work or lower work pace were associated with increased odds of recovery (no persistent fatigue at follow up). Working in a nursing home and being intensely bothered by long term health problems were associated with reduced odds of recovery. **CONCLUSIONS:** High demands and lack of rewards at work may cause persistent fatigue in nurses' aides. Reduction of demands, adequate feedback, and mental stimulation in the form of support and positive challenges may facilitate recovery in those who have persistent fatigue. Leaders in the health services may be in a position to regulate factors that influence the level of fatigue in nurses' aides.

**MeSH Terms:** Adult - Aged - Chronic Disease - Fatigue/etiology* - Female - Humans - Job Satisfaction - Male - Middle Aged - Nurses' Aides/statistics & numerical data* - Occupational Diseases/etiology* - Prospective Studies - Regression Analysis - Research Support, Non-U.S. Gov't - Workplace

**Psychol Rep. 2006 Apr;98(2):585-601.**

**Work organization, economic inequality, and depression among nursing assistants: a multilevel modeling approach.**

**Muntaner C, Van Dussen DJ, Li Y, Zimmerman S, Chung H, Benach J.**

**Social Equity and Health Section, Centre for Addictions and Mental Health, University of Toronto, Canada. carles_muntaner@canh.net**

To investigate the relationships among the nursing home work environment, emotional strain, and depression in Nursing Assistants in Ohio and West Virginia, this cross-sectional study was conducted with 395 Nurse Assistants in 49 nursing homes in Ohio and West Virginia. Organizational attributes were measured independently at the individual and organizational levels. Multilevel modeling techniques were used to analyze the data. Our methods examined nursing home organizational structure (ownership type, managerial style), and work organization (emotional strain) was examined in relation to the prevalence of depression among nursing assistants. Our findings suggest workplace emotional strain and age are associated with increased odds of depression. Implications of our work include that work in nursing homes for the environment it fosters has a strong effect on emotional strain and depression among Nursing Assistants.

**MeSH Terms:** Adult - Cross-Sectional Studies - Depression/epidemiology* - Employment/psychology* - Female - Humans - Job Satisfaction - Male - Middle Aged - Models, Psychological* - Nurses' Aides/psychology* - Nursing Homes/organization & administration* - Organizational Culture* - Questionnaires - Research Support, U.S. Gov't, P.H.S. - Socioeconomic Factors*

**Ergonomics. 2006 Apr 15-May 15;49(5-6):457-69.**

**Work stress and patient safety: observer-rated work stressors as predictors of characteristics of safety-related events reported by young nurses.**

**Elfering A, Semmer NK, Grebner S.**

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This study investigates the link between workplace stress and the 'non-singularity' of patient safety-related incidents in the hospital setting. Over a period of 2 working weeks 23 young nurses from 19 hospitals in Switzerland documented 314 daily stressful events using a self-observation method (pocket diaries); 62 events were related to patient safety. Familiarity of safety-related events and probability of recurrence, as indicators of non-singularity, were the dependent variables in multilevel regression analyses. Predictor variables were both situational (self-reported situational control, safety compliance) and chronic variables (job stressors such as time pressure, or concentration demands...
and job control). Chronic work characteristics were rated by trained observers. The most frequent safety-related stressful events included incomplete or incorrect documentation (40.3%), medication errors (near misses 21%), delays in delivery of patient care (9.7%), and violent patients (9.7%). Familiarity of events and probability of recurrence were significantly predicted by chronic job stressors and low job control in multilevel regression analyses. Job stressors and low job control were shown to be risk factors for patient safety. The results suggest that job redesign to enhance job control and decrease job stressors may be an important intervention to increase patient safety.

MeSH Terms: Human Engineering - Humans - Medical Errors/psychology* - Medical Errors/statistics & numerical data - Nursing Staff, Hospital/psychology* - Nursing Staff, Hospital/standards - Occupational Health* - Questionnaires - Risk Assessment - Safety Management* - Self Assessment (Psychology) - Stress, Psychological* - Switzerland - Workload/psychology* - Workplace/psychology*

4. Hygiène et gestion des risques

- Documents en anglais :


Using the six sigma process to implement the Centers for Disease Control and Prevention Guideline for Hand Hygiene in 4 intensive care units.


BACKGROUND: The Centers for Disease Control and Prevention (CDC) Guideline for Hand Hygiene in Health Care Settings was issued in 2002. In 2003, the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) established complying with the CDC Guideline as a National Patient Safety Goal for 2004. This goal has been maintained through 2006. The CDC's emphasis on the use of alcohol-based hand rubs (ABHRs) rather than soap and water was an opportunity to improve compliance with the CDC hand hygiene recommendations required by JCAHO. OBJECTIVE: To use the Six Sigma process to examine hand hygiene practices and increase compliance with the CDC hand hygiene recommendations. DESIGN: Six Sigma Project with pre-post design. PARTICIPANTS: Physicians, nurses, and other staff working in 4 intensive care units at 3 hospitals. MEASUREMENTS: Observed compliance with 10 required hand hygiene practices, mass of ABHR used per month per 100 patient-days, and staff attitudes and perceptions regarding hand hygiene reported by questionnaire. RESULTS: Observed compliance increased from 47% to 80%, based on over 4,000 total observations. The mass of ABHR used per 100 patient-days in 3 intensive care units (ICUs) increased by 97%, 94%, and 70%; increases were sustained for 9 months. Self-reported compliance using the questionnaire did not change. Staff reported increased use of ABHR and increased satisfaction with hand hygiene practices and products. CONCLUSIONS: The Six Sigma process was effective for organizing the knowledge, opinions, and actions of a group of professionals to implement the CDC's evidence-based hand hygiene practices in 4 ICUs. Several tools were developed for widespread use.


Publication Types: Multicenter Study


Viral load and outcome in SARS infection: the role of personal protective equipment in the emergency department.

Lu YT, Chen PJ, Sheu CY, Liu CL. Division of Chest, Medical Department, Mackay Memorial Hospital, and Department of Respiratory Care, Taipei Medical University, Taipei, Taiwan.

This study was conducted to evaluate the effectiveness of personal protective equipment (PPE) against severe acute respiratory syndrome (SARS). Sixteen patients in a SARS cluster, including 4 health care workers (HCWs) and 12 non-HCWs were studied. We compared the initial viral load by nasopharyngeal swabs, clinical progression, and outcome of this cluster. The HCWs had a lower viral load. The non-HCWs had a higher mean C-reactive protein, lower oxygen saturation, and a higher incidence of intubation and death. Secondary household transmission developed in three of the non-HCWs' families. One month after discharge, non-HCWs had more signs of fibrosis on high resolution computed tomography (HRCT) scan and an impaired pulmonary function test. Although most of the
PPE do not confer absolute protection against SARS, it seems that they may lower exposure to the virus, leading to a lower risk of secondary transmission, and be associated with relatively mild disease and a better early outcome.

MeSH Terms: Adolescent - Adult - Child - Cross Infection/prevention & control* - Disease Progression - Disease Transmission, Patient-to-Professional/prevention & control* - Emergency Service, Hospital/organization & administration* - Female - Humans - Infection Control/instrumentation - Infection Control/methods* - Male - Middle Aged - Protective Devices* - Research Support, Non-U.S. Gov't - Respiratory Function Tests - Reverse Transcriptase Polymerase Chain Reaction - Severe Acute Respiratory Syndrome/epidemiology - Severe Acute Respiratory Syndrome/prevention & control* - Severe Acute Respiratory Syndrome/transmission - Taiwan/epidemiology - Viral Load

5. Infections nosocomiales

- Documents en français :


Cas de coqueluche parmi le personnel d'un service de maternité: gestion d'une alerte sanitaire.

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Pertussis is a highly contagious acute respiratory tract infection, with a poor prognosis in non-vaccinated new-borns. OBJECTIVES: The authors had for aim to investigate an epidemic of 5 pertussis cases among health care workers (HCW) in our maternity ward with potential exposure of new-borns and to evaluate HCW compliance and experience gain. METHODS: A retrospective study was made using a questionnaire with HCW on preventive measures taken (antibiotic prophylaxis with erythromycin and wearing a mask). RESULTS: Two hundred and thirty-eight patients were warned of a potential pertussis contamination. No nosocomial case was detected among patients or their new borns. Ten proved or probable cases were identified among 101 HCW having answered (N=101/210, 48%). Sixty percent of HCW people followed the antibiotic treatment and 85% wore a mask among whom 46% adequately. Non-compliance factors were mainly related to adverse effects (41%), delayed information (41%), and false vaccine protection (22%). Crisis communication was felt as unsatisfactory for 72% of HCW and recommendations not adapted for 39% of the staff. CONCLUSION: This survey points out the difficulty of managing a pertussis alert in a medical ward.


6. Risques biologiques

- Documents en anglais :


An outbreak of cadaver-acquired chickenpox in a health care setting.

Paul N, Jacob ME.
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The varicella-zoster virus (the chickenpox virus) is highly infectious and may affect nonimmune health care professionals. We report an outbreak of chickenpox in our hospital in which the source of infection was a cadaver. The spread of infection occurred in the course of an autopsy.


Career risk of hepatitis C virus infection among U.S. emergency medical and public safety workers.

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OBJECTIVE: A probabilistic model was used to analyze the cumulative risk of occupational hepatitis C virus (HCV) infection among U.S. public safety workers. METHODS: A model for the career risk of HCV was developed using the frequency of parenteral exposures to blood, the population
seroprevalence of HCV, and the risk of seroconversion after exposure. Estimates of key input variables were obtained from published studies. RESULTS: Calculated estimates of the 30-year risk of infection ranged from <0.1% for police, firefighters, and corrections officers to 1.9% among paramedics and emergency department personnel in high-risk communities. Infrequent exposure to high-risk blood seems to present a greater risk of infection than more frequent contact to low-risk populations. CONCLUSIONS: Use of a probabilistic risk assessment model using published data can assist in policy decisions designed to protect the health and safety of workers. Further efforts to document the frequency of occupationally acquired HCV are needed.


**Evaluation of human-to-human transmission of monkeypox from infected patients to health care workers.**

Fleischauer AT, Kile JC, Davidson M, Fischer M, Karem KL, Teclaw R, Messersmith H, Pontones P, Beard BA, Braden ZH, Cono J, Sejvar JJ, Khan AS, Damon I, Kuehnert MJ. Bioterrorism Preparedness and Response Program, National Center for Infectious Diseases, Centers for Disease Control and Prevention, Atlanta, Georgia 30333, USA. alf6@cdc.gov

**BACKGROUND:** In 2003, human monkeypox was first identified in the United States. The outbreak was associated with exposure to infected prairie dogs, but the potential for person-to-person transmission was a concern. This study examines health care worker (HCW) exposure to 3 patients with confirmed monkeypox. METHODS: Exposed HCWs, defined as HCWs who entered a 2-m radius surrounding case patients with confirmed monkeypox, were identified by infection-control practitioners. A self-administered questionnaire and analysis of paired serum specimens determined exposure status, immune response, and postexposure signs and symptoms of monkeypox. RESULTS: Of 81 exposed HCWs, 57 (70%) participated in the study. Among 57 participants, 40 (70%) had > or =1 unprotected exposure; none reported signs or symptoms consistent with monkeypox illness. One exposed HCW (2%), who had been vaccinated for smallpox within the past year, had serological evidence of recent orthopoxvirus infection: acute- and convalescent-phase serum specimens tested positive for anti-orthopoxvirus IgM. No exposed HCWs had signs and symptoms consistent with monkeypox. CONCLUSION: More than three-quarters of exposed HCWs reported at least 1 unprotected encounter with a patient who had monkeypox. One asymptomatic HCW showed laboratory evidence of recent orthopoxvirus infection, which was possibly attributable to either recent infection or smallpox vaccination. Transmission of monkeypox likely is a rare event in the health care setting.

MeSH Terms: Adult - Antibodies, Viral/blood - Child - Disease Outbreaks - Disease Transmission, Patient-to-Professional/statistics & numerical data* - Female - Health Personnel* - Humans - Immunoglobulin G/blood - Immunoglobulin M/blood - Male - Middle Aged - Monkeypox/transmission* - Questionnaires - Smallpox Vaccine

Substances: Antibodies, Viral - Immunoglobulin G - Immunoglobulin M - Smallpox Vaccine

BMC Infect Dis. 2006 Aug 16;6(1):130 [Epub ahead of print]

**How long do nosocomial pathogens persist on inanimate surfaces? A systematic review.**

Kramer A, Schwebke I, Kampf G.

**ABSTRACT:** BACKGROUND: Inanimate surfaces have often been described as the source for outbreaks of nosocomial infections. The aim of this review is to summarize data on the persistence of different nosocomial pathogens on inanimate surfaces. METHODS: The literature was systematically reviewed in MedLine without language restrictions. In addition, cited articles in a report were assessed and standard textbooks on the topic were reviewed. All reports with experimental evidence on the duration of persistence of a nosocomial pathogen on any type of surface were included. RESULTS: Most gram-positive bacteria, such as Enterococcus spp. (including VRE), Staphylococcus aureus (including MRSA), or Streptococcus pyogenes, survive for months on dry surfaces. Many gram-negative species, such as Acinetobacter spp., Escherichia coli, Klebsiella spp., Pseudomonas aeruginosa, Serratia marcescens, or Shigella spp., can also survive for months. A few others, such as Bordetella pertussis, Haemophilus influenzae, Proteus vulgaris, or Vibrio cholerae, however, persist only for days. Mycobacteria, including Mycobacterium tuberculosis, and spore-forming bacteria, including Clostridium difficile, can also survive for months on surfaces. Candida albicans as the most important nosocomial fungal pathogen can survive up to 4 months on surfaces. Persistence of other yeasts, such as Torulopsis glabrata, was described to be similar (5 months) or shorter (Candida parapsilosis, 14 days). Most viruses from the respiratory tract, such as corona, coxsackie, influenza, SARS or rhino virus, can persist on surfaces for a few days. Viruses from the gastro-intestinal tract, such as astrovirus, HAV, polio- or rota virus, persist for approximately 2 months. Blood-borne viruses, such as HBV or HIV, can persist for more than one week. Herpes viruses, such as CMV or HSV type 1
and 2, have been shown to persist from only a few hours up to 7 days. CONCLUSIONS: The most common nosocomial pathogens may well survive or persist on surfaces for months and can thereby be a continuous source of transmission if no regular preventive surface disinfection is performed.

http://www.biomedcentral.com/1471-2334/6/130/abstract


Inadequate Hepatitis B Vaccination and Post-Exposure Evaluation Among Transplant Surgeons: Prevalence, Correlates, and Implications.

Halpern SD, Asch DA, Shaked A, Stock P, Blumberg EA.

OBJECTIVES: To identify the proportion of U.S. transplant surgeons who are adequately vaccinated against hepatitis B virus (HBV), identify characteristics associated with inadequate vaccination, and assess the proportion who had been evaluated for immunization following potential HBV exposures.

SUMMARY BACKGROUND DATA: It is unknown what proportion of transplant surgeons are appropriately vaccinated against HBV or evaluated for immunization following operative exposures.

METHODS: We mailed questionnaires and to all active U.S. transplant surgeons. We compared demographic characteristics of responders and nonresponders to evaluate the potential for nonresponse bias.

RESULTS: Of 619 eligible respondents, 347 (56.1%) returned completed questionnaires. Of the 311 surgeons for whom HBV vaccination was indicated (all surgeons with neither a prior history of HBV infection nor a prior adverse reaction to the vaccine itself), 70 (22.5%; 95% confidence interval [CI], 18.0-27.6%) received fewer than the recommended 3 injections. Surgeon characteristics associated with inadequate vaccination included length of clinical practice (odds ratio [OR], 1.5 per 10-year increment in duration of practice; 95% CI, 1.1-2.2), increased fear of infection (OR, 1.2 for each unit increase in fear out of 10; 95% CI, 1.1-1.4), and lack of recent testing for HBV infection (OR, 2.0; 95% CI, 1.1-3.8). Of the 94 surgeons (27.3%) reporting at least one needle-stick exposure while operating on an HBV-infected patient, 14 (14.9%) were inadequately vaccinated; of these 14, only 5 (35.7%) sought appropriate serologic testing and counseling for active immunization. Surgeons underestimated both the risks of percutaneous exposure while operating, and of becoming infected with HBV if exposed. CONCLUSIONS: Many transplant surgeons are inadequately vaccinated against HBV and fail to seek evaluation following possible exposures. Underestimation of the risks of HBV exposure and transmission may relate to these failures. Requiring documentation of HBV vaccination and immunity to maintain operating room privileges may protect surgeons, their patients, and operating room staff.


Increased Susceptibility to Varicella-Zoster Virus among Israeli Physicians and Nurses Born in the Middle-East Region.

Chodick G, Ashkenazi S, Livni G, Lerman Y.
Sackler Faculty of Medicine, Tel-Aviv University.

Nosocomial transmission of varicella-zoster virus (VZV) is recognized as a significant cause of morbidity in health care workers as well as in high-risk patients. The current study aimed to investigate the presence of VZV antibodies among physicians and nurses, to assess the variables affecting it, and to compare it with previous international studies. Data were obtained by a questionnaire regarding sociodemographic and occupational characteristics and by determination of serum antibodies to varicella-zoster. The seroprevalence of varicella-zoster among the 335 study participants was 94.8% (95% CI: 91.9%-96.9%), with no significant difference between nurses (94%) and physicians (97%). Decreased risk for the virus was observed in workers who immigrated to Israel from the Asia or Africa (OR=0.15; 95% CI: 0.04-0.51). Reduced immunity among these workers remained significant in a multivariate model, which also included age, gender, years of education, number of siblings, and crowding at childhood. Our data suggest that in spite of the high immunity among Israeli physicians and nurses in general, the implementation of small-scale vaccination programs aimed at workers from warmer and tropical areas, should be seriously considered.


Secondary transmission of varicella vaccine virus in a chronic care facility for children.

Hattie Larlham Center for Children With Disabilities, Mantua, Ohio

A 16-year-old varicella-seronegative resident at a chronic care facility received varicella vaccine; 15 days later he developed severe varicella. Subsequently, a 13-year-old resident and a 39-year-old
health care worker developed mild varicella. We demonstrate that vaccine-strain virus was transmitted to both persons, and that transmission included at least 2 variant vaccine strains.

MeSH Terms: Adolescent - Adult - Chickenpox/genetics - Chickenpox/transmission* - Chickenpox Vaccine/adverse effects* - Chickenpox Vaccine/immunology - Child - Cross Infection/transmission* - Cross Infection/virology - Disease Transmission, Patient-to-Professional* - Female - Humans - Immunocompetence - Male - Point Mutation - Residential Facilities*

Substances: Chickenpox Vaccine

Publication Types: Case Reports

6.1 Accident d'exposition au sang

- Documents en français :


Accidents exposant au sang et soignants en hémodialyse : données épidémiologiques et prévention en France.


CCLIN Paris-Nord, institut biomedical des Cordeliers, 15-21, rue de l'Ecole-de-Medecine, 75006 Paris, France.

Health care workers (HCW) in haemodialysis units are confronted with a significant risk of occupational exposure to blood and body fluids. The prevalence of bloodborne viruses is high among haemodialysis patients. The data presented here relates to the extraction of 121 occupational exposures notified to occupational health departments by haemodialysis HCW, documented between January 1995 and December 1999 in a network of 54 volunteer hospitals in Northern France. The exposures notified in haemodialysis wards were needlestick injuries in 85 cases (70.2%), splashes to the eyes or non-intact skin in 30 cases (24.8%) and cuts in 6 cases (5.0%). Connection and disconnection of dialysis catheters to fistulae, blood sampling procedures and injections alone were involved in approximately 3 notified exposures out of 4 (46.3, 14.9 and 11.6% respectively for a total of 72.8%). The principal mechanisms for exposure were the handling of blood-soiled needles and instruments or involved the handling of sharps containers. Haemodialysis fistula needles were involved in only 12 (13.2%) of notified percutaneous injuries. Nearly 2/3 (63%) of 91 notified percutaneous injuries could have been avoided by the observance of universal/standard precautions alone and the use of safety devices which were available at the time. The collection and analysis of occupational exposures can serve as basis for an assessment of practices, devices and safety equipment to increase HCW safety in haemodialysis wards.

- Documents en anglais :


Assessment of preventive measures for accidental blood exposure in operating theaters: A survey of 20 hospitals in Northern France.


From the CCLIN Paris-Nord, Institut Biomedical des Cordeliers, Paris.

BACKGROUND: Accidental exposures to blood of body fluids (ABE) expose health care workers (HCW) to the risk of occupational infection. OBJECTIVES: Our aim was to assess the prevention equipment available in the operating theater (OT) with reference to guidelines or recommendations and its use by the staff in that OT on that day and past history of ABE. METHODS: Correspondents of the Centre de Coordination de la Lutte contre les Infections Nosocomiales (CCLIN) Paris-Nord ABE Surveillance Taskforce carried out an observational multicenter survey in 20 volunteer French hospitals. RESULTS: In total, 260 operating staff (including 151 surgeons) were investigated. Forty-nine of the 260 (18.8%) staff said they double-gloved for all patients and procedures, changing gloves hourly. Blunt-tipped suture needles were available in 49.1% of OT; 42 of 76 (55.3%) of the surgeons in these OT said they never used them. Overall, 60% and 64% of surgeons had never self-tested for HIV and hepatitis C virus (HCV), respectively. Fifty-five surgeons said they had sustained a total of 96 needlestick injuries during the month preceding the survey. Ten of these surgeons had notified of 1 needlestick injury each to the occupational health department of their hospital (notification rate, 10.4%). CONCLUSION: The occurrence of needlestick injury remained high in operating personnel in France in 2000. Although hospitals may improve access to protective devices, operating staff mindful of safety in the OT should increase their use of available devices, their knowledge of their own serostatus, and their ABE notification rate to guide well-targeted prevention efforts.
Veille documentaire Médecine du travail du personnel hospitalier – Août - Septembre 2006 - CHU Rouen

AORN J. 2006 Apr;83(4):834-8, 841-6; quiz 849-52.

**Bloodborne pathogen exposure in the OR--what research has taught us and where we need to go.**

Taylor DL 3rd.

**US Army OR Specialist Course, Ft Sam Houston, San Antonio, TX, USA.**

Contracting a disease from bloodborne pathogens has been identified as an occupational hazard for perioperative personnel for more than two decades. Perioperative staff members are particularly vulnerable to percutaneous exposure. Despite known hazards, research has shown that perioperative staff members continue to take risks by not consistently complying with standard precautions and not reporting all percutaneous injuries. Health care workers (HCWs) and their employers need to work together to ensure that workplaces are safe. This article discusses mechanisms of bloodborne pathogen transmission, compliance with standard guidelines, and the social and economic costs of contracting a bloodborne illness. Steps to ensure that HCWs are protected also are outlined.


Publication Types: Review


**Blunt and penetrating object injuries in housekeepers working in a Turkish University Hospital.**

Erdem Y, Talas MS.

**Ankara University Cebeci School of Health, Ankara, Turkey.**

BACKGROUND: Hospitals have been described as hazardous work environments with an increase in job-related injuries. This situation creates great risks and hazards for housekeepers while carrying out their job. METHODS: This descriptive study was performed on 402 housekeepers working in patient-care services in Turkey. The data of this study were collected using a questionnaire form. This form included 26 questions about general features of housekeepers and working units, blunt and penetrating object injuries in the past 3 months and hepatitis B virus immunization. RESULTS: The majority of housekeepers (71.1%) are men, (54%) are graduates of primary school or are illiterate, and (73.6%) are married. Their mean age is 31.5 years; the mean length of employment is 3.2 years. Sixty-two point nine percent of them are working in medical/surgical units, 88.8% of them are working in routine cleaning, and 29.1% of them have been injured with various blunt and penetrating objects while working in hospital in the past 3 months. Only 26.6% of the housekeepers have been administered the hepatitis B vaccination. CONCLUSION: This study showed a high frequency of blunt and penetrating object injuries in housekeepers. Therefore, more efforts are necessary to increase compliance with vaccination in housekeepers.


Substances: Hepatitis B Vaccines


**Health care workers push for use of safer hypodermic needles.**

Garmaise D.

Unions in Ontario and British Columbia representing nurses and other health care workers are lobbying for safer hypodermic needles in hospitals, long-care facilities and other medical settings.

MeSH Terms: British Columbia - Health Personnel* - Humans - Needles* - Occupational Health* - Ontario

Publication Types: Newspaper Article


**HIV postexposure prophylaxis: Who should get it?**

Campos-Outcalt D.

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In most cases, HIV postexposure prophylaxis (PEP) is given only to healthcare workers if the settings make exposure to HIV-infected persons likely. Otherwise, it is usually deemed unnecessary. However, a decision for or against PEP is complicated. Occupational and nonoccupational exposure to HIV can produce fear, anxiety, and stress. Information on the exposure risk is frequently incomplete, the risk of
infection is usually low, the degree of protection offered by PEP is not fully defined, and the potential for side effects from the medications is significant. This article distills the Centers for Disease Control and Prevention's most recent guidance on HIV PEP.

Substances: Anti-HIV Agents

Impact of safety needle devices on occupationally acquired needlestick injuries: a four-year prospective study.

Adams D, Elliott TS.

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A four-year prospective study was undertaken at the University Hospital Birmingham National Health Service Foundation Trust to evaluate the effect of the introduction of a range of safety hypodermic needle devices on the number of reported needlestick injuries (NSIs). Data on the number of reported NSIs for four clinical areas began in 2001. Following an enhanced sharps awareness strategy in 2002, the number of NSIs reduced from 16.9/100 000 devices used in 2001 to 13.9/100 000 devices (P=0.813). In 2003, when only standard training was provided, the number of NSIs increased to 20/100 000 devices. However, the subsequent introduction of three safety needle devices with concomitant training resulted in a significant reduction in the number of reported NSIs to 6/100 000 devices in 2004 (P=0.045). User satisfaction and acceptance of the safety needles was also very favourable. These results suggest that when safety needle devices are introduced into the clinical setting and appropriate training is given, a significant reduction in the number of occupationally acquired NSIs may ensue.

Needle stick injuries: a comparison of practice and attitudes in two UK District General Hospitals*.

Raghavendran S, Bagry HS, Leith S, Budd JM.

Pediatric Anaesthesia & Pain Fellow, Department of Anaesthesia, Montreal Children's Hospital, 2300, Rue Tupper, Montreal H3H 1P3, Canada.

Hospital staff are at risk from occupational exposure to blood-borne viruses due to needle stick injuries. Occupational health departments have invested considerable resources in the prevention of these injuries, which can be very distressing to the affected individuals. We surveyed health care workers, i.e. doctors, nurses and operating department practitioners, in the operating theatre and critical care units of two UK hospitals located in the Midlands and Merseyside to compare attitudes and experiences. There were significant deficiencies in several aspects of the safe practice of universal precautions. These deficiencies were similar in the two hospitals surveyed and may reflect a national trend. We conclude that every individual, department and trust needs to reflect on their practice and address these deficiencies.

Needle stick injuries: how can we minimise our risk?

Gabriel J.

Central South Coast Cancer Network, Southampton, UK. Janice.gabriel@hiowha.nhs.uk

In the United Kingdom (UK) there is inequity in health care workers access to safer sharps and needle free systems. The availability of safer sharps and needle free systems is dependent on the budget manager authorising the purchase of these devices within individual hospitals. This can mean that within the same organisation one department can be using safer sharps and needle free systems, while another department is denied access to such equipment. This is partly due to competing priorities for scarce health care resources, which is becoming more acute, and lack of national guidance to employers to provide such safety equipment for their employees. At the current time the UK does not have a mandatory reporting system for sharps injuries, so the true extend of the problem is not fully understood.


Occupational HIV infection among health care workers exposed to blood and body fluids in Brazil.
Rapparini C. Infectious Diseases Service, Clementino Fraga Filho University Hospital, Federal University of Rio de Janeiro, and the STD/AIDS Department, Health Secretariat of Rio de Janeiro City, Rio de Janeiro, Brazil. rapparini@risco/biologico.org

BACKGROUND: Exposure to bloodborne pathogens poses a serious risk to health care workers (HCWs). Surveillance systems of occupationally acquired human immunodeficiency virus (HIV) infection have been developed in several countries, mainly in the developed world. The purpose of this study was to identify cases of occupationally acquired HIV infection among HCWs in Brazil.

METHODS: A systematic literature review was conducted. The databases searched were MEDLINE and LILACS (1981 to 2004), academic dissertations and theses (1987 to 2004), abstracts from national and international meetings during the last 10 years, and local and national bulletins. Reference lists to identify other relevant articles were checked. RESULTS: The database searches generated a total of 60,770 titles. Two hundred and nineteen references were finally analyzed. Four documented cases of occupational HIV infection were identified. All of the cases involved nursing staff and were percutaneous exposures. Seventy-five percent occurred after a procedure involving a needle placed directly into a vein or artery. Most (75%) had source patients with probable high viral load and low CD4 count. Two cases represented HIV seroconversion despite initiation of postexposure prophylaxis. Only one case (1/4; 25%) presented acute retroviral illness. CONCLUSION: After an extensive literature search, 4 documented occupational HIV infection cases were identified, only 1 of which had been published in a scientific journal. Our findings were consistent with the majority of documented infections worldwide. Surveillance systems are indispensable to establish and formulate rational policies for minimizing the risk of occupational infection, not only from HIV but also from hepatitis B and C viruses and other bloodborne pathogens.


Publication Types: Case Reports - Meta-Analysis - Review


Practice of universal precautions among healthcare workers.

Sadoh WE, Fawole AO, Sadoh AE, Oladimeji AO, Sotiloye OS. Department of Child Health, University of Benin, Nigeria. sadohehi@yahoo.com

INTRODUCTION: Healthcare workers (HCWs) are exposed to bloodborne infections by pathogens, such as HIV, and hepatitis B and C viruses, as they perform their clinical activities in the hospital. Compliance with universal precautions has been shown to reduce the risk of exposure to blood and body fluids. This study was aimed at assessing the observance of universal precautions by HCWs in Abeokuta, Ogun State, Nigeria. SUBJECTS AND METHODS: The study was conducted in September 2003 in Abeokuta metropolis, Ogun State, Nigeria. The respondents were doctors, trained and auxiliary nurses, laboratory scientists and domestic staff. They were selected through a multistage sampling technique from public and private healthcare facilities within the metropolis. The instrument was an interviewer-administered, semistructured questionnaire that assessed the practice of recapping and disposal of used needles, use of barrier equipment, handwashing and screening of transfused blood. RESULTS: There were 433 respondents, 211 (48.7%) of which were trained nurses. About a third of all respondents always recapped used needles. Compliance with nonrecapping of used needles was highest among trained nurses and worst with doctors. Less than two-thirds of respondents (63.8%) always used personal protective equipment, and more than half of all respondents (56.5%) had never worn goggles during deliveries and at surgeries. The provision of sharps containers and screening of transfused blood by the institutions studied was uniformly high. A high percentage (94.6%) of HCWs observed handwashing after handling patients. The use of barrier equipment was variable in the institutions studied. CONCLUSION: Recapping of used needles is prevalent in the health facilities studied. Noncompliance with universal precautions place Nigerian HCWs at significant health risks. Training programs and other relevant measures should be put in place to promote the appropriate use of protective barrier equipment by HCWs at all times.

A regional counselling service was established to handle all accidental blood exposures using a standardized protocol. Levels of risk were assessed using an algorithm. Accidents that posed a risk for the transmission of hepatitis B (HBV), hepatitis C (HCV) and human immunodeficiency virus (HIV) were classified as 'high risk', whereas accidents that posed a risk for HBV alone were classified as 'low risk'. Medical interventions were implemented according to the level of risk. During a one-year period, all accidents were registered and analysed for adherence to the standard protocol. In 2003, the centre handled 454 incidents. Of these, 36 (7.9%) incidents were assessed as no risk, 329 (72.5%) were assessed as low risk, and 67 (14.8%) were assessed as high risk. Due to incomplete registration, 22 (4.8%) incidents could not be analysed further. In total, 36% of the incidents with risk for HBV transmission and 40% of the incidents with risk for HCV and HIV transmission were not handled according to the proposed protocol. Breaches consisted of over-reaction (25/396) as well as insufficient response (123/396). Potentially inadequate treatment occurred for HIV postexposure prophylaxis in 12 of 63 incidents. Incomplete follow-up for HCV occurred in 11 of 63 incidents, and lack of HBV immunoglobulin administration occurred in five of 396 incidents, including three high-risk incidents. In 21 of 396 low-risk exposures, the breaches in protocol resulted from late reporting. It remains difficult to achieve an acceptable level of standardized care when using standard operational procedures. Documentation and evaluation of flaws are essential to improve the system.


Training-related accidents during teacher-student-assistance activities of medical students.

Reis JM, Lamounier Filho A, Rampinelli CA, Soares EC, Prado Rda S, Pedroso ER.
Faculdade de Medicina, Universidade Federal de Minas Gerais, Belo Horizonte, MG, Brazil.
A survey was done to determine the most common hospital accidents with biologically contaminated material among students at the Medical College of the Federal University of Minas Gerais. Six hundred and ninety-four students (between fifth and twelfth semesters of the college course) answered the questionnaire individually. Three-hundred and forty-nine accidents were reported. The accident rate was found to be 33.9% in the third semester of the course, and increased over time, reaching 52.3% in the last semester. Sixty-three percent of the accidents were needlestick or sharp object injuries; 18.3% mucous membrane exposure; 16.6% were on the skin, and 1.7% were simultaneously on the skin and mucous membrane exposure. The contaminating substances were: blood (88.3%), vaginal secretion (1.7%), and others (9.1%). The parts of the body most frequently affected were: hands (67%), eyes (18.9%), mouth (1.7%), and others (6.3%). The procedures being performed when the accidents occurred were: suture (34.1%), applying anesthesia (16.6%), assisting surgery (8.9%), disposing of needles (8.6%), assisting delivery (6.3%), and others (25.9%). Forty-nine percent of those involved reported the accident to the accident control department. Of these 29.2% did not receive adequate medical assistance. Eight percent of those involved used antiretroviral drugs and of these 86% discontinued the treatment on receiving the Elisa method applied to the patient (HIV-negative); 6.4% discontinued the treatment due to its side-effects; and 16% completed the treatment.


Substances: Anti-Retroviral Agents


Variation in blood and body fluids exposure when small-gauge needles or peripheral venous catheters were implicated: results of a 4-year surveillance in France.

Coordinating Center for Nosocomial Infections Control, Paris, France. Francois.L-Heriteau@bhdc.jussieu.fr
The blood and body fluids exposure (BBFE) risk for health care workers varies according to numerous factors. Based on a needlestick surveillance in 13 French hospitals from 1997 to 2000, we evaluated incidence and temporal trends of BBFE according to medical devices causing needlestick injuries. We
observed that the BBFE incidence per 100,000 peripheral venous catheters purchased decreased from 12.9 to 4.9, whereas incidence per 100,000 subcutaneous needles purchased increased from 8.7 to 14.3.


6.2 Contamination soignant-soigné

- Documents en anglais :

Infected health care workers and patient safety: a double standard. 
Perry JL, Pearson RD, Jagger J. 
Division of Infectious Diseases, International Healthcare Worker Safety Center, UVA Health System, PO Box 800764, Charlottesville, VA 22908-0764, USA. jlp6f@virginia.edu 
US policy regarding health care worker-to-patient transmission of bloodborne pathogens, issued in 1991, is flawed. We review current evidence of such nosocomial infections and conclude that a standardized national policy is needed, which includes improved surveillance and follow-up of blood exposures to patients and targeted practice restrictions for infected practitioners performing exposure-prone procedures.


Infected physicians and invasive procedures: safe practice management. 
Reitsma AM, Closen ML, Cunningham M, Minich HD, Nichols RL, Pearson RD, Sawyer RG, Wispelwey B, Tereskerz PM, Lombardo PA. 
The Center for Biomedical Ethics, University of Virginia Health Science Center, Charlottesville, VA 22908-0758, USA. ar6j@virginia.edu 
There is currently no public policy that provides guidance concerning whether and when physicians infected with hepatitis B virus (HBV), hepatitis C virus (HCV), and/or human immunodeficiency virus (HIV) can safely perform invasive procedures. A committee of experts in the fields of medicine, law, and biomedical ethics and 1 community member, aided by an advisory board, was established to produce recommendations for policy reform. An extensive literature review was conducted for these 3 infectious diseases, medicine, surgery, epidemiology, law, and bioethics to gather all relevant data. Special recommendations are made regarding the management of physicians who are infected with HIV, HBV, and/or HCV. This policy proposal includes a list of exposure-prone procedures and a decision chart that indicates under what conditions infected physicians can practice beyond the need for disclosure of their serological status.


Publication Types: Practice Guideline

6.3 Transmission aérienne

6.4 Transmission de contact
6.5 Vaccination

- Documents en français :

In BEH (Bulletin Épidémiologique Hebdomadaire) n 31 (25 juillet 2006)
Déterminants de la vaccination anti-grippale parmi le personnel de deux centres hospitaliers français en 2004
Marcel Calvez (marcel.calvez@uhb.fr), Caroline Semaille, François Fierro, Anne Laporte
"La connaissance des déterminants chez le personnel hospitalier français est cruciale pour permettre d'adapter les stratégies de promotion de la vaccination afin d'améliorer la couverture vaccinale antigrippale. L'objectif de cette enquête était d'identifier les déterminants de la vaccination anti-grippale parmi le personnel de deux centres hospitaliers français afin de proposer des recommandations aux médecins du travail pour les prochaines campagnes."
Article de périodique

Etude d'impact d'une campagne active de vaccination antigrippale du personnel hospitalier du CHU de Clermont-Ferrand.
Chamoux A, Denis-Porret M, Rouffiac K, Baud O, Millot-Theis B, Souweine B.
Service de santé-travail-environnement, CHU de Clermont-Ferrand, rue Montalembert, 63000 Clermont-Ferrand, France. a.chamoux@chu-clermontferrand.fr
OBJECTIVE: Protecting health care units from influenza epidemics has a double purpose: to decrease the mortality rate of patients at risk and to reduce work-leave in medical staff. An annual vaccination appears to be the most effective prevention against influenza. In France however the vaccinal coverage of health workers does not exceed 15%. METHOD: In the 2003-2004 winter, the department of occupational health and the nosocomial disease committee of the Clermont-Ferrand Teaching Hospital initiated an active vaccination campaign. Three joint actions were carried out: date and place of vaccination sessions were individually addressed to every healthcare worker, meetings on prevention of influenza were held, as well as vaccination sessions on the work place in exposed units. RESULTS: Significant results were noted: vaccination rate increased 2.6 fold compared to the previous year (4.8 to 12.6%) and a vaccinal coverage rate of 29% in the exposed units. COMMENTS: The results even if far from national objectives encourage the pursuit of the campaigns promoting information and vaccination on the work place. The high frequency of reported postinjection adverse effects (1 out of 3) should be taken into account in future information campaign.
Substances: Influenza Vaccines
Publication Types: Evaluation Studies

- Documents en anglais :

Correlates of Public Health Workforce Acceptance of Smallpox Immunization in Virginia.
Bryant-Genevier M, Sommer S, McMahon A, Ball R, Braun MM.
M.D., M.P.H., M.H.S., is Fellow, CBER/OBE/DE/Vaccine Safety Branch, Food and Drug Administration, Rockville, Maryland.
By October 24, 2003, 38,577 of 500,000 targeted civilians received smallpox vaccine in the Pre-Event Smallpox Vaccination Campaign, Phase I. We investigated reasons for the low vaccination uptake. Cross-sectional survey, conducted in May 2004. We surveyed 225 health care personnel, potential members of smallpox response teams in Virginia, who were offered vaccination. We assessed respondents' acceptance of vaccination and its association with factors potentially influencing vaccination: perceptions of vaccine safety, contraindications, concerns about bioterrorism, and workplace influences. Among nonvaccinees (n=44), 70% had a contraindication to the vaccine compared with 8% among vaccinees (n=132). The desire to prepare America for potential bioterrorist
Influenza vaccination status and influenza-related perspectives and practices among US physicians.

Cowan AE, Winston CA, Davis MM, Wortley PM, Clark SJ.
The Child Health Evaluation and Research Unit, Division of General Pediatrics, University of Michigan, Ann Arbor, USA. cowana@med.umich.edu

BACKGROUND AND OBJECTIVE: The influenza vaccination rate among US healthcare workers (HCWs) remains low. This survey was designed to assess influenza vaccination status and related knowledge, attitudes, and beliefs among a national sample of primary care physicians and subspecialists likely to see patients at high risk for complications from influenza.

METHODS: We used a mail survey of a national random sample of 495 family physicians (FPs), 491 internists (IMs), 498 geriatricians (GERs), and 497 pulmonologists (PUDs). RESULTS: The overall response rate was 38%. Almost all respondents (87%) reported receiving an influenza vaccine during the 2003-2004 influenza season, with no significant difference across specialty groups (84% FPs, 87% IMs, 87% GERs, 91% PUDs). In a multivariate model, adjusted for physician specialty and age group, significant predictors of vaccination were: strong agreement that HCWs have professional responsibility to be vaccinated, access to vaccination on site and free of charge, strong worksite recommendation for HCWs to be vaccinated, and strong agreement that benefits of vaccination outweigh risk of side effects.

CONCLUSIONS: Physicians reported a high influenza vaccination rate. To improve these rates further, with likely benefits for other HCWs, worksite policies that facilitate access to vaccination and
documentation of reductions in nosocomial influenza associated with HCW vaccination should continue to be pursued.

MeSH Terms: Aged - Attitude of Health Personnel* - Geriatrics - Health Care Surveys - Health Knowledge, Attitudes, Practice* - Humans - Influenza Vaccines* - Influenza, Human/prevention & control* - Logistic Models - Middle Aged - Physicians, Family/psychology* - Pulmonary Disease (Specialty) - Research Support, U.S. Gov't, P.H.S. - United States

Substances: Influenza Vaccines


Vaccinating healthcare workers against influenza to protect the vulnerable--is it a good use of healthcare resources? A systematic review of the evidence and an economic evaluation.

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Influenza causes substantial mortality in high-risk groups despite targeted vaccination programmes. This paper considers whether it is worth vaccinating healthcare workers (HCWs) against influenza to protect high-risk patients in a series of systematic reviews and an economic evaluation. Eighteen studies are included. Vaccination was highly effective in HCWs, with minimal adverse effects. Two trials assessed patient mortality after vaccinating HCWs, both of which showed a reduction. Despite recommendations, less than 25% of HCW in Europe and the UK are vaccinated. Five studies looked at programmes to increase uptake; these produced increases of 5%-45%. Published economic evaluations did not include patient benefit; therefore, an economic evaluation using UK data was undertaken. In the base case, vaccination was cost saving (pounds 12/vaccinee). In the most pessimistic scenario it cost pounds 405/life-year gained. Effective implementation should be a priority.


Publication Types: Review

7. Risques chimiques

- Documents en anglais :


Chemical occupational risks identified by nurses in a hospital environment.

Xelegati R, Robazzi ML, Marziale MH, Haas VJ.
Hospital Sao Francisco.

Hospital nursing workers are exposed to occupational chemical risks. This quantitative study aimed to identify what chemical substances nurses have contact with in their activities, what substances cause health problems and what alterations correspond to possible problems caused by the chemical products they mention. A self-administered data collection instrument was answered by 53 nurses, who mentioned exposure mainly to antibiotics and benzene (100%), iodine (98.1%) and latex-talc (88.7%); the main problem-causing substances mentioned were antineoplastic substances (86.7%), glutaraldehyde (79.2%) and ethylene oxide (75.5%); the described health alterations were: eye watering; allergic reactions; nausea and vomiting, while other health problems that can be caused by the above listed products were not mentioned. These workers need further information on occupational chemical risks, which they could have received in undergraduate or permanent education courses.

MeSH Terms: Adult - Female - Hospitals* - Humans - Male - Middle Aged - Nursing Staff, Hospital* - Occupational Diseases/chemically induced* - Occupational Exposure/adverse effects* - Pharmaceutical Preparations/adverse effects* - Research Support, Non-U.S. Gov't - Risk Factors


Genotoxic effects in a population of nurses handling antineoplastic drugs, and relationship with genetic polymorphisms in DNA repair enzymes.

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BACKGROUND: Concern about the genotoxic risk associated with chronic handling of antineoplastic drugs has increased, and usual safety practices may not avoid exposure. METHODS: Comet assay and MN test were performed on 30 oncology nurses and 22 controls. Genetic polymorphisms of
XRCC1, XRCC3, and APE1 genes were determined by PCR-RFLP. RESULTS: Data obtained showed increased cytogenetic and DNA damage in the exposed group, although statistical significance was only reached in the comet assay. Significant differences in TL were observed for carriers of the variant alleles of every gene analyzed. However, no significant effect was detected in the MN test. CONCLUSIONS: Evidence that the present handling practices of antineoplastic drugs in some Portuguese hospitals are not enough to prevent exposure are provided. Present data suggest that genetic polymorphisms in the studied DNA repair enzymes may influence the individual susceptibility to DNA damage related to chronic handling of antineoplastic drugs. Copyright (c) 2005 Wiley-Liss, Inc.

The risk for multiple sclerosis in female nurse anaesthetists: a register based study.

Landtblom AM, Tondel M, Hjalmarsson P, Floidin U, Axelsson O.
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BACKGROUND: Previous studies have suggested that exposure to organic solvents, including volatile anaesthetic agents, may be a risk factor for multiple sclerosis (MS), possibly in combination with genetic and other environmental factors. AIMS: To further investigate the role of volatile anaesthetic agents having similar acute toxic effects to other organic solvents. METHODS: Female nurse anaesthetists, other female nurses, and female teachers from middle and upper compulsory school levels were identified and retrieved from the 1985 census, Statistics Sweden. By means of the unique personal identity number in Sweden, these individuals were linked with the disability pension registers at The National Social Insurance Board and also with data on hospital care 1985-2000 at The National Board of Health and Welfare. RESULTS: The cumulative incidence rate ratio of MS was found to be increased in female nurse anaesthetists in relation to other nurses (statistically not significant) and teachers (statistically significant), respectively. CONCLUSIONS: These findings give some support to previous findings of an increased risk for MS in nurse anaesthetists. This is interesting in the context of previous observations of organic solvents in general as a potential risk factor in MS.

MeSH Terms: Adult - Age Distribution - Anesthetics/adverse effects* - Female - Humans - Incidence - Middle Aged - Multiple Sclerosis/chemically induced* - Multiple Sclerosis/epidemiology - Nurse Anaesthetists* - Occupational Exposure/adverse effects* - Registries - Research Support, Non-U.S. Gov't - Risk Factors - Sweden/epidemiology 
Substances: Anesthetics
Publication Types: Multicenter Study

8. Risques physiques

8.1 Rayonnements ionisants

- Documents en français :

HESA Newsletter, N 29 - Mars 2006
Les effets sur la santé de faibles doses de radiations ionisantes
Gilbert Eggermont

HESA Newsletter, N 29 - Mars 2006
Radiations ionisantes: quels enjeux pour la santé des travailleurs?
Marc Sapir

In Travail & Sécurité, n 664, juillet-août 2006
Rayonnements sous contrôle. Déchets hospitaliers radioactifs
Dossier
**Biological dosimetry -- cytogenetics findings at persons occupationally exposed to ionizing radiation.**

Caticovic A, Tanackovic F.

*Center for Human Genetics, Faculty of Medicine, University of Sarajevo, Cekalusa 90, 71000 Sarajevo, Bosnia and Herzegovina.*

A large number of physical and chemical agents are capable to course chromosomal aberrations. Ionizing radiation is frequent and well known course of chromosomal aberrations. If deoxyribonucleic acid (DNA) is irradiated before synthesis chromosomal-type aberrations are caused. Chromatid-type aberrations are results of DNA damages occurred during or after synthesis. Some of these changes could exist at patients several years after exposition. Biological dosimetry-cytogenetics analysis of persons occupational exposed to ionizing radiation in Federation of Bosnia and Herzegovina have been carried out in "Center for Human Genetics" of Medical Faculty in Sarajevo. In this study we have evaluated cytogenetics findings of persons employed in a zone of radiation. Cytogenetics findings have been demonstrated in allowed limit in 154 (81.1%) examinees, and cytogenetics findings were out of normal values in 36 (18.9%) examinees. The majorities who have been employed in a zone of ionizing radiation were in age group 40-44 (25.3%) and age group 45-49 (24.7%). Radiological technicians (35.7%) were exposed the most to ionizing radiation, than clinical nurse specialists (14.7%), radiologists (11.1), physicians (7.4%) machines technicians (6.3%), pneumologists (4.7%), orthopedists (4.2%) and scrub nurses (4.2%). Biological dosimetry-cytogenetics analysis have been carried out at 108 (56.8%) male and 82 (43.2%) female examinees. The most frequent aberration have been presented with 26.8% in the form of acentric fragments, than chromatid fragments with 21.2%, dicentric chromosomes with 19.5%, gaps with 18.7%, minutes with 12.2% and inter-arm interchanges with 1.6%.

**MeSH Terms:** Adult - Chromosome Aberrations/statistics & numerical data* - Cytogenetics/methods - Female - Health Personnel* - Humans - Lymphocytes/radiation effects* - Male - Middle Aged - Occupational Exposure* - Radiation Dosage - Radiation, Ionizing

**Evaluating the effectiveness of a radiation safety training intervention for oncology nurses: a pretest-intervention-posttest study.**

Dauer LT, Kelvin JF, Horan CL, St Germain J.

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**BACKGROUND:** Radiation, for either diagnosis or treatment, is used extensively in the field of oncology. An understanding of oncology radiation safety principles and how to apply them in practice is critical for nursing practice. Misconceptions about radiation are common, resulting in undue fears and concerns that may negatively impact patient care. Effectively educating nurses to help overcome these misconceptions is a challenge. Historically, radiation safety training programs for oncology nurses have been compliance-based and behavioral in philosophy. METHODS: A new radiation safety training initiative was developed for Memorial Sloan-Kettering Cancer Center (MSKCC) adapting elements of current adult education theories to address common misconceptions and to enhance knowledge. A research design for evaluating the revised training program was also developed to assess whether the revised training program resulted in a measurable and/or statistically significant change in the knowledge or attitudes of nurses toward working with radiation. An evaluation research design based on a conceptual framework for measuring knowledge and attitude was developed and implemented using a pretest-intervention-posttest approach for 15% of the study population of 750 inpatient registered oncology nurses. RESULTS: As a result of the intervention program, there was a significant difference in nurse’s cognitive knowledge as measured with the test instrument from pretest (58.9%) to posttest (71.6%). The evaluation also demonstrated that while positive nursing attitudes increased, the increase was significant for only 5 out of 9 of the areas evaluated. CONCLUSION: The training intervention was effective for increasing cognitive knowledge, but was less effective at improving overall attitudes. This evaluation provided insights into the effectiveness of training interventions on the radiation safety knowledge and attitude of oncology nurses.

Evaluation of stray radiofrequency radiation emitted by electrosurgical devices.
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Electrosurgery refers to the passage of a high-frequency, high-voltage electrical current through the body to achieve the desired surgical effects. At the same time, these procedures are accompanied by a general increase of the electromagnetic field in an operating room that may expose both patients and personnel to relatively high levels of radiofrequency radiation. In the first part of this study, we have taken into account the radiation emitted by different monopolar electrosurgical devices, evaluating the electromagnetic field strength delivered by an electrosurgical handle and straying from units and other electrosurgical accessories. As a summary, in the worst case a surgeon's hands are exposed to a continuous and pulsed RF wave whose magnetic field strength is 0.75 A m\(^{-1}\) (E-field 400 V m\(^{-1}\)). Occasionally stray radiation may exceed ICNIRP's occupational exposure guidelines, especially close to the patient return plate. In the second part of this paper, we have analysed areas of particular concern to prevent electromagnetic interference with some life-support devices (ventilators and electrocardiographic devices), which have failed to operate correctly. Most clinically relevant interference occurred when an electrosurgery device was used within 0.3 m of medical equipment. In the appendix, we suggest some practical recommendations intended to minimize the potential for electromagnetic hazards due to therapeutic application of RF energy.

Health risk assessment of occupational exposure to a magnetic field from magnetic resonance imaging devices.
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Health care staff who operate magnetic resonance imaging (MRI) devices are exposed to a static magnetic field of significant spatial heterogeneity always produced by MRI magnets during the whole shift. They can also be exposed to pulses of a time-varying magnetic field (gradient field) present only during patients' examinations. The level of the workers' exposure depends both on the type of the magnet and on the ergonomic design of each MRI device. The paper presents methods used for measuring and assessing workers’ exposure. It also discusses the results of inspection measurements carried out next to approximately 20 MRI devices of approximately 0.2-2.0 T. The presented characteristic and overview of the variability of workers’ exposure to a variety of MRI devices supports the need for data on monitoring occupational exposure to MRI. International exposure assessment standards and guidelines (International Commission on Non-Ionizing Radiation Protection [ICNIRP], Institute of Electrical and Electronics Engineers [IEEE], American Conference of Governmental and Industrial Hygienists [ACGIH], European Commission directive), and those established in Poland are also compared.

Ionising radiation exposure to orthopaedic trainees: the effect of sub-specialty training.
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mjoddy9@aol.com
INTRODUCTION: We monitored image intensifier use by orthopaedic trainees to assess their exposure to ionising radiation and to investigate the influence of sub-specialty training. MATERIALS AND METHODS: Five different orthopaedic registrars recorded their monthly image intensifier screening times and exposure doses for all cases (trauma and elective), for a combined total of 12 non-consecutive months. Radiation exposure was monitored using shoulder and waist film badges worn both by surgeons and radiographers screening their cases. RESULTS: Registrars in spinal sub-specialties were exposed to significantly higher doses per case and cumulative doses per month than non-spinal trainees (P < 0.05), but significantly lower screening times per case (P < 0.05). There were no significant differences in cumulative screening times per month (P > 0.05). Regression analysis for all surgeons showed a significant relationship between shoulder film badge reading and cumulative
dose exposed per month (P < 0.05), but not for cumulative screening time. Shoulder film badge recordings were significantly higher for spinal compared with non-spinal registrars (P < 0.05), although all badges were below the level for radiation reporting. Only one radiographer badge recorded a dose above threshold. CONCLUSIONS: Whilst the long-term effects of sub-reporting doses of radiation are not fully understood, we consider that this study demonstrates that trainees should not be complacent in accepting inadequate radiation protection. The higher doses encountered with spinal imaging means that sub-specialty trainees should be alerted to the risk of their increased exposure. The principle of minimising radiation exposure must be maintained by all trainees at all times.

MeSH Terms: Film Dosimetry/methods - Humans - Medical Staff, Hospital/education - Occupational Exposure/adverse effects - Occupational Exposure/prevention & control* - Orthopedics* - Radiation Dosage* - Radiation Protection/methods - Radiation, Ionizing* - Students, Medical


Occupational exposure in the electrophysiology laboratory: quantifying and minimizing radiation burden.

Theocharopoulos N, Damilakis J, Perisinakis K, Manios E, Vardas P, Gourtsoyiannis N. Department of Medical Physics, Faculty of Medicine, University of Crete, P.O. Box 2208, Iraklion 71003, Crete, Greece.

Fluoroscopically guided procedures in the electrophysiology room, such as radiofrequency catheter ablation and implantation of cardiac resynchronization devices, may result in high radiation exposure of electrophysiologists and assisting staff. Our aim was to provide accurate and applicable data on occupational doses to the electrophysiology laboratory personnel. We exposed fluoroscopically an anthropomorphic phantom at three projections common in electrophysiology studies. For each exposure, scattered radiation was measured at 182 sites of the cardiology room at four body levels. Effective dose values, eye lens, skin and gonadal doses to the laboratory staff were calculated. Our study has shown that a procedure requiring 40 min of fluoroscopy yields a maximum effective dose of 129 microSv and a maximum value of gonadal dose of 56.8 microSv to staff using a 0.35 mm lead-equivalent apron. A conservative estimate of the electrophysiologist's annual maximum permissible workload is 155 procedures. Staff effective dose values vary by a factor of 40 due to positioning during fluoroscopy and by a factor of 11 due to radiation protection equipment. Undercouch protective shields may reduce gonadal doses up to 98% and effective dose up to 25%. Consequently, radiation levels in the electrophysiology room are not negligible. Mitigation of occupational exposure is feasible through good fluoroscopy and working practices.


Radiation exposure in mossbauer spectroscopy.

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This paper deals with the risks involved in routine operations as well as in potentially hazardous management of radioactive sources in a typical Mossbauer spectroscopy research laboratory. It comes from a direct experience at the University of Parma, Italy, and from information obtained from more than 50 different Mossbauer laboratories all over the world. A review of the normal procedures performed by researchers and technicians in the Mossbauer laboratory is presented along with the relative dose evaluations. Radiation doses have been calculated and measured from various situations, ranging from daily operations and maintenance work to radiation risks in case of incorrect procedures and/or device failures.

8.2 Troubles musculo-squelettiques

- Documents en français :

Analyse d'un programme de formation visant la prévention primaire des maux de dos chez le personnel soignant des centres hospitaliers du Québec
Berthelette, Diane; Leduc, Nicole; Bilodeau, Henriette; Durand, Marie-Josée; Faye, Cheikh; Loignon, Christine; Lagacé, Marie-Claude
"En collaboration avec l'Association sectorielle pour la santé et la sécurité du travail du secteur des affaires sociales (ASSTAS), les chercheuses entreprendront une évaluation du Programme de déplacement sécuritaire des bénéficiaires (PDSB), implanté depuis 1985 dans les établissements de santé du Québec pour prévenir les maux de dos chez le personnel soignant. Cette recherche en deux phases vise dans un premier temps à décrire la théorie sous-jacente du programme, à documenter son implantation et à inventorier les autres interventions de prévention des lésions musculo-squelettiques mises en place dans ces établissements. En plus de jeter les bases de la deuxième phase de la recherche, ce travail permettra de fournir à tout organisme intéressé une connaissance approfondie des composantes d'un tel programme et de faciliter la surveillance de son implantation. Ces éléments permettront de définir ensuite les effets escomptés du PDSB, de créer un instrument de mesure valable à cet égard, de cerner les liens de ces effets avec la formation donnée en milieu de travail, ainsi que d’estimer la relation entre les coûts et les avantages du programme."
http://www.irsst.qc.ca/fr/_publicationirsst_100186.html

- Documents en anglais :

A detailed analysis of musculoskeletal disorder risk factors among Japanese nurses.
Smith DR, Mihashi M, Adachi Y, Koga H, Ishitake T.
Department of Hazard Assessment, National Institute of Industrial Health, 6-21-1 Nagao, Kawasaki 214-8585 Japan. smith@niih.go.jp
INTRODUCTION: Although Musculoskeletal Disorders (MSD) represent a common occupational problem, few epidemiological studies have investigated MSD risk factors among Asian nurses, particularly those in Japan. METHOD: We administered a modified Japanese-language version of the Standardized Nordic Questionnaire to 1,162 nurses from a large teaching hospital. MSD categories focused on the neck, shoulder, upper back, and lower back regions. RESULTS: A total of 844 completed questionnaires were analyzed (response rate: 72.6%). The 12-month period-prevalence of MSD at any body site was 85.5%. MSD was most commonly reported at the shoulder (71.9%), followed by the lower back (71.3%), neck (54.7%), and upper back (33.9%). Alcohol consumption, tobacco smoking, and having children were shown to be significant risk factors, with adjusted Odds Ratios of 1.87 (95%CI: 1.17-2.96), 2.45 (95%CI: 1.43-4.35), and 2.53 (95%CI: 1.32-4.91), respectively. Workplace risk factors included manually handling patients (OR: 2.07 to 11.97) and undertaking physically laborious work (OR: 2.09 to 2.76). Nurses reporting pre-menstrual tension were 1.66 and 1.94 times more likely to suffer from lower back and upper back MSD, respectively. High mental pressure was also identified as a significant risk factor for MSD of the neck (OR: 1.53) and shoulder (OR: 2.07). IMPACT ON INDUSTRY: The complex nature of MSD risk factors identified during this study suggests that remediation strategies which focus only on manual handling tasks would probably be suboptimal in reducing MSD among nurses. Therefore, to help alleviate their considerable MSD burden, a greater emphasis will need to be placed on job satisfaction, work organization, and occupational stress, as well as the more traditional hazard reduction strategies such as manual handling, work tasks, and other occupational factors.

Back pain in direct patient care providers: early intervention with cognitive behavioral therapy.
Menzel NN, Robinson ME.
Department of Health Care Environments and Systems, University of Florida, College of Nursing,
Back pain and injury are a widespread problem for direct care providers and can lead to disability and job loss. Although most intervention studies focus on the number of reported injuries as the outcome variable, pain is a leading indicator of impending injury. More secondary prevention interventions focusing on early detection and treatment of pain are needed to reduce injuries. The primary aim of this study was to assess the feasibility and effect size of a cognitive behavioral therapy (CBT) intervention to reduce the measures of back pain, stress, and disability in direct care providers working with back pain. The secondary aim was to assess the association between affect and outcome variables, particularly unscheduled work absence, which is a component of disability. This randomized clinical trial recruited 32 registered nurses and nursing assistants with a history of back pain in the past year and assigned them to either an intervention or a control group. The CBT intervention was a weekly stress and pain management session over 6 weeks led by a clinical psychologist. Data for both groups were collected at baseline and at 6 weeks, with work absence data caused by back pain self-reported for 12 weeks. Pain intensity scores declined in the intervention group, indicating a large effect. However, stress scores increased. Depression scores accounted for one-third of the variance in hours absent because of back pain. Although there was a high dropout rate in the intervention group, a cognitive-behavioral intervention shows promise as a secondary prevention intervention.


Ceiling Lift as an Intervention to Reduce the Risk of Patient Handling Injuries

According to WorkSafeBC, nursing staff experience the highest number of musculoskeletal injuries (MSI) in BC healthcare. Among all documented MSIs, back injuries are the most common. Nurses with frequent and direct physical contact with patients have been shown to have a higher incidence of back injuries than those who do not frequently work with patients. Nurses who have been injured commonly report patient handling as a major cause of their injury. In recent years, ceiling-mounted lift devices have been increasingly promoted as an alternative to other patient handling practices. As the "Ceiling Lift as an Intervention to Reduce the Risk of Patient Handling Injuries" literature review suggests, recent studies have shown dramatic reductions in the cost and severity of lifting and transferring tasks and related injuries, when ceiling lifts are used for patient handling.

Electric profiling beds cut injury risk

This study aimed to examine the effect that providing electric profiling beds had on manual handling operations, staff injury, and patient care and satisfaction.

Prevention of low back pain in female eldercare workers: randomized controlled work site trial.

STUDY DESIGN: Randomized controlled trial. OBJECTIVE: To evaluate the effectiveness of an ergonomic and psychosocial intervention in reducing low back pain (LBP) among health care workers. SUMMARY OF BACKGROUND DATA: LBP and injuries are reported frequently among health care workers worldwide. Improvement of person-transfer techniques is the preferred tool in the prevention of both. Although popular, to our knowledge, any effect has not been documented in controlled trials. METHODS: Study participants were eldercare workers from 19 eldercare groups randomly assigned to the transfer technique, stress management, or reference arm. A total of 163 individuals (79% of the source population) participated in both baseline and follow-up after 2 years. Outcome was intra-
individual change in rating of LBP during the past 3 and 12 months. RESULTS: We found no difference in LBP in any of the intervention arms over the study period. CONCLUSION: The study showed no effect of a transfer technique or stress management program targeting LBP. Thus, there is a need for discussing other priorities in the prevention of LBP among health care workers.


Publication Types: Randomized Controlled Trial


Risk factors associated with the reporting of musculoskeletal symptoms in workers at a laboratory of clinical pathology.

Ramadan PA, Ferreira M Jr.

Center for Health Promotion, Department of Internal Medicine, University of Sao Paulo (USP), Brazil.

OBJECTIVE: This study was conducted with the participation of 120 workers at a laboratory of clinical pathology, with the objective of determining the association of demographic factors, clinical and occupational case histories, individual characteristics, work-related stress and ergonomic workplace analysis with the following outcomes: musculoskeletal symptoms and absences from work associated with these symptoms reported by a questionnaire. METHODS: Interviews were carried out in order to obtain demographic data, occupational case history and risk factors in workplaces. Data related to musculoskeletal symptoms and absences from work have been registered by means of an adaptation of the Nordic Questionnaire. The variables related to stress at work were based on the questionnaire of the European Foundation for the Improvement of Life and Work Conditions. According to the model prepared by the Finnish Institute of Occupational Health, 120 workers' workstations have been submitted for ergonomic analysis of work. RESULTS: By means of multiple logistic regression, the results showed that the symptoms have been significantly associated with the previous history of rheumatic or orthopaedic disease (OR = 15.4; 95% CI, 1.7-135.7) and with movements and postures at work (OR = 13.5; 95% CI, 3.8-47.9). Absences from work due to musculoskeletal symptoms have been significantly associated with the low level of education (OR = 32.3; 95% CI, 4.9-211.8) and marital status (OR = 37.1; 95% CI, 2.3-593.9). CONCLUSIONS: The symptoms have been significantly associated with a previous history of rheumatic or orthopaedic disease and with inadequate movements and postures at work. Absences from work due to musculoskeletal symptoms have been significantly associated with the workers' low level of education and marital status.


Work organization and musculoskeletal injuries among a cohort of health care workers.

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OBJECTIVES: This study investigated the relationship between work-organization factors (job control, job demands, and workload measures) and the risk of lower-body musculoskeletal injury among health care workers. METHODS: A four-year, retrospective cohort study of 3769 health care workers was carried out in one acute care hospital in the Canadian province of British Columbia. A job-exposure matrix was constructed for the work-organization factors from survey and administrative data and carried out in one acute care hospital in the Canadian province of British Columbia. OBJECTIVES: This study investigated the relationship between work-organization factors (job control, job demands, and workload measures) and the risk of lower-body musculoskeletal injury among health care workers. METHODS: A four-year, retrospective cohort study of 3769 health care workers was carried out in one acute care hospital in the Canadian province of British Columbia. A job-exposure matrix was constructed for the work-organization factors from survey and administrative data and assigned to workers on the basis of their occupation and department of employment. Musculoskeletal injuries resulting in workers' compensation claims were ascertained from the injury database of the hospital's Occupational Health and Safety Department. RESULTS: In the final Poisson models adjusted for demographic and biomechanical factors, an increased risk for compensated musculoskeletal injuries of the lower back and lower limb was related to low job control [relative risk (RR) 1.64, 95% confidence interval (95% CI) 1.08-2.49] and workload defined by working during periods of high absenteeism within a department (RR 2.10, 95% CI 1.61-2.98). The risk also increased with more biomechanical demands in an occupation and with a recent previous injury. CONCLUSIONS: The results indicate that work-organization characteristics (job control and workload) were associated with an increased risk of musculoskeletal injuries resulting in a compensation claim. These associations remained after the effect of demographic and biomechanical factors was taken into consideration. The association with workload measured by departmental levels of absenteeism
should be explored further in future studies as reverse causality (musculoskeletal symptoms resulting in absenteeism) could not be fully ruled out in the current study.

9. Violence

- Documents en anglais :

Conflict management: a primer for doctors in training.
Saltman DC, O'Dea NA, Kidd MR.
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Conflict in the health arena is a growing concern and is well recognised for doctors in training. Its most extreme expression, workplace violence is on the increase. There is evidence that many conflicts remain unsatisfactorily resolved or unresolved, and result in ongoing issues for staff morale. This paper describes the nature of conflict in the health care system and identifies the difference between conflict and disagreement. Using a conflict resolution model, strategies for dealing with conflict as it arises are explored and tips are provided on how to effectively manage conflict to a satisfactory resolution for all parties.
MeSH Terms: Communication - Conflict (Psychology)* - Humans - Interprofessional Relations* - Medical Staff, Hospital/education* - Negotiating - Personnel Management - Workplace* Publica tion Types: Review

Contemp Nurse. 2006 May;21(2):251-63.
Survival of the fittest, or socially constructed phenomena? Theoretical understandings of aggression and violence towards nurses.
Luck L, Jackson D, Usher K.
School of Nursing Sciences, James Cook University, Cairns, Queensland.
Violence is an issue that is attracting increasing attention in the nursing literature. There is general agreement that nurses are exposed to unacceptable levels of violence and aggression in the workplace, and that levels of violence are increasing. Despite this attention and awareness, however, violence does not have a standard definition, and theoretical explanations of violence are seldom considered when discussing it in relation to nursing. This paper discusses current issues associated with defining violence, and presents an overview of some of the traditional and contemporary theories of aggression and violence in relation to nursing and the health context. Conflicting issues surrounding predictors and precipitators of violence are examined. We explore the notion that violence is 'part of the job' in nursing. In conclusion, we assert that the current discourses on aggression and violence maintain the status quo, and argue that new explanatory positions on aggression and violence towards nurses are needed.
MeSH Terms: Aggression/psychology* - Humans - Nurses* - Psychological Theory - Terminology - Violence/prevention & control - Violence/psychology* - Workplace* Publica tion Types: Review

OHS AH, 2006
Violent and Aggressive Behaviour in Acute Care: A Literature Review
Violent and aggressive behaviour is a serious problem within the healthcare sector. Exposure to patient violence while working alone in the community is especially daunting as help may be minutes or even hours away. Aside from the physical injury that may occur to a healthcare worker, violence can cause mental stress, loss of job satisfaction, and job retention issues. The OHS AH website offers a number of tips on how to minimize the risk of patient violence for those working alone, including:
* Personal Safety Tips
* Guidelines for dealing with angry client
* Guidelines for dealing with anxious client
* Guidelines for dealing with depressed client in crisis
http://www.ohsah.bc.ca/EN/25226/

Workplace bullying in nursing: towards a more critical organisational perspective.
Hutcheson M, Vickers M, Jackson D, Wilkes L.
U niversity of Western Australia, Sydney, Australia. mariehutch@bigpond.com.au
Workplace bullying is a significant issue confronting the nursing profession. Bullying in nursing is frequently described in terms of 'oppressed group' behaviour or 'horizontal violence'. It is proposed that the use of 'oppressed group' behaviour theory has fostered only a partial understanding of the phenomenon in nursing. It is suggested that the continued use of 'oppressed group' behaviour as the major means for understanding bullying in nursing places a flawed emphasis on bullying as a
phenomenon that exists only among nurses, rather than considering it within the broader organisational context. The work of Foucault and the 'circuits of power' model proposed by Clegg are used to provide an alternative understanding of the operation of power within organisations and therefore another way to conceive bullying in the nursing workforce.

MeSH Terms: Attitude of Health Personnel - Employee Discipline - Hostility - Humans - Internal-External Control - Interprofessional Relations* - Nurse's Role/psychology - Nursing Staff/organization & administration - Nursing Staff/psychology* - Occupational Health - Organizational Culture - Peer Group - Philosophy, Nursing - Power (Psychology)* - Social Behavior* - Social Dominance - Violence/prevention & control - Violence/psychology - Workplace/organization & administration - Workplace/psychology*

Publication Types: Review


This paper presents the results on workplace violence from a larger study undertaken in 2004. Comparison is made with the results of a similar study undertaken in 2001. The study involved the random sampling of 3,000 nurses from the Queensland Nurses' Union's membership in the public (acute hospital and community nursing), private (acute hospital and domiciliary nursing) and aged care (both public and private aged care facilities) sectors. The self-reported results suggest an increase in workplace violence in all three sectors. Although there are differences in the sources of workplace violence across the sectors, the major causes of workplace violence are: clients/patients, visitors/relatives, other nurses, nursing management and medical practitioners. Associations were also found between workplace violence and gender, the designation of the nurse, hours of employment, the age of the nurse, morale and perceptions of workplace safety. Although the majority of nurses reported that policies were in place for the management of workplace violence, these policies were not always adequate.


10. Autres

- Documents en français :


"Des recherches menées sur la main-d'œuvre canadienne ont révélé que les travailleurs de la santé sont systématiquement plus exposés aux blessures et aux problèmes de santé mentale que tout autre groupe professionnel. Les conclusions sont colligées dans un rapport auquel l'ASSTSAS a collaboré."

http://control.ohsah.bc.ca/media/Health_Canada_WCBPatterns_FrenchFinal.pdf

- Documents en anglais :

Addict Behav. 2006 Jun 30; [Epub ahead of print] Binge drinking and health behavior in medical students. Keller S, Maddock JE, Lafortge RG, Velicer WF, Basler HD. Department of Public Health Sciences and Epidemiology, University of Hawaii at Manoa, USA; Institute for Medical Psychology, Philipps University Marburg, Germany.

OBJECTIVES: The objective of this study was to assess the prevalence of binge drinking and its relation to other health behaviors, drinking-related attitudes and perceived social norms among German medical students. METHODS: 271 first-year German medical students completed a cross-sectional, self-administered survey. A total of 252 (62% female and 38% male) students provided useable surveys. The mean age was 20.6 years (S.D.=1.7). RESULTS: Most students reported healthy
drinking with 24% having one episode in the past 2 weeks (Infrequent Bingers) and 28% having two or more episodes (Frequent Bingers). Men were more likely than women to have had a binge drinking episode. Frequent binge drinkers saw more pros of drinking and reported a higher temptation to drink than students in the other groups. Additionally, they were more likely to smoke, use cannabis, not exercise and not eat fruits and vegetables. All students overestimated their peers' alcohol intake and binge drinking frequency. CONCLUSIONS: Binge drinking was highly prevalent in this sample and clearly related to other health risk behaviors. Drinking rates were similar to college students in other Western countries. Future research needs to assess the consequences of this multiple risk behavior among medical students regarding academic and professional performance as well as personal health.


Keep fit for nursing.

Davis C.

Concern about the number of overweight staff in her NHS trust motivated chief executive Maggie Boyle to set up an exercise programme. Now nurses are working out with the Territorial Army.

MeSH Terms: Attitude of Health Personnel - Exercise Therapy/organization & administration* - Great Britain - Humans - Nursing Staff, Hospital*/psychology - Obesity/prevention & control* - Occupational Health Services/organization & administration* - Physical Fitness - State Medicine


Night shift: can a homeopathic remedy alleviate shift lag?

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Night shift nurses are subject to shift lag or circadian dysrhythmia, which may result in physical and mental symptoms ranging from fatigue, irritability, depression, and apathy to gastrointestinal, cardiovascular, and sleep disorders. This study investigated the effect a homeopathic remedy No-Shift-Lag had on the night shift nurses in an intensive care unit. The study was a randomized, double-blind, placebo-controlled, crossover trial. The measures included an objective computer-based vigilance test and a series of subjective questionnaires.

MeSH Terms: Adult - Chronobiology Disorders - Cross-Over Studies - Double-Blind Method - Female - Homeopathy* - Humans - Male - Middle Aged - Night Care* - Nursing Staff, Hospital/psychology* - Psychomotor Performance - Questionnaires - United States - Work Schedule Tolerance/physiology*

Publication Types: Randomized Controlled Trial


Smoking among Greek nurses and their readiness to quit.

Beletsioti-Stika P, Scriven A.

Military Academy of Nursing, Athens, Greece.

AIM AND RATIONALE: The preventable nature of smoking-associated diseases places a responsibility on health professionals for smoking-related health promotion. This paper disseminates information from a survey of qualified Greek nurses, comparing smoking attitudes, influences on smoking behaviours and desire to quit with their motivation to act as health promoters with patients and other health professionals who smoke. METHOD AND SAMPLE: A random sample (n=402) of qualified nurses employed by hospitals in Athens was surveyed with a self-administered questionnaire in a cross-sectional survey which had a 73% response rate. Following quality control measures, a final sample of 308 was achieved. RESULTS: Results showed that almost half of the nurses in the sample were current smokers, almost a quarter were former smokers, with just less than a third non-smokers. Using the Stages of Change model as a measure, the survey reported that 11% of the smokers in the sample expressed a desire to stop within the next month, another 12% in the coming 6 months and 23% of current smokers were still in the pre-contemplation stage. The main reasons given for continuing to smoke included using tobacco for enjoyment and as a coping mechanism for stress. Organizational problems were identified as the main source of stress. Finally, the majority of respondents confirmed the important part that they can play as role models in promoting health behaviours in their patients. CONCLUSIONS: Findings suggest that smoking prevalence among qualified Greek nurses is greater than that reported in the general Greek population. Implications and recommendations for nursing practice, education and research include the early provision of smoking education in nurse training. Interventions should be directed at nurses who smoke to assist them to stop and to maintain cessation according to their stages of change.

MeSH Terms: Adaptation, Psychological - Adult - Analysis of Variance - Attitude of Health Personnel* - ethology - Attitude to Health - Burnout, Professional/prevention & control - Burnout, Professional/psychology - Chi-Square Distribution - Cross-Sectional Studies - Female - Greece/epidemiology - Health Behavior/ethology - Health Knowledge, Attitudes, Practice - Health Services Needs and Demand - Humans - Male - Models, Psychological - Motivation - Nursing Staff,
Substance abuse among medical practitioners.
Serry N, Ball JR, Bloch S.
Department of Psychiatry, St Vincent's Hospital, Fitzroy, Victoria, 3065, Australia.
This paper reviews the literature relating to the prevalence, causes and treatment of substance abuse and psychiatric illness among doctors. Possible aetiological and pathogenic factors influencing drug-dependent doctors are discussed and some problems which arise in the management of these doctors are raised. Local studies in relation to certain personality factors in medical students, to cause of death in a medical cohort, and preliminary impressions from a study of substance-abusing doctors are reported.

The effectiveness of a 15 minute weekly massage in reducing physical and psychological stress in nurses.
Bost N, Wallis M.
Griffith University Research Centre for Clinical Practice Innovation, Gold Coast, Queensland, Australia.
OBJECTIVE: To investigate the effectiveness of massage therapy in reducing physiological and psychological indicators of stress in nurses employed in an acute care hospital. DESIGN: Randomised controlled trial. SETTING: Acute care hospital in Queensland. SUBJECTS: Sixty nurses were recruited to the five week study and randomly assigned to two groups. INTERVENTION: A 15 minute back massage once a week. The control group did not receive any therapy. MAIN OUTCOME MEASURES: Demographic information, a life events questionnaire and a brief medical history of all participants was completed at enrolment. Physiological stress was measured at weeks one, three and five by urinary cortisol and blood pressure readings. Psychological stress levels were measured at weeks one and five with the State-Trait Anxiety Inventory (STAI). RESULTS: Differences in the change in urinary cortisol and blood pressure between the two groups did not reach statistical significance. However, STAI scores decreased over the five weeks for those participants who received a weekly massage. The STAI scores of the control group increased over the five week period. These differences between the groups were statistically significant. CONCLUSION: The results of this study suggest that massage therapy is a beneficial tool for the health of nurses as it may reduce psychological stress levels. It is recommended that further large studies be conducted to measure the symptoms of stress rather than the physiological signs of stress in nurses.

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http://www.istnf.fr/pages/actualites/actualites_2.asp?num=195141