Research Alert
October 28, 2011

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Abstract: This article examines changes since 1976 in a number of indicators that show the aging of Canadian workers and a growing number of workers delaying retirement. The increase in delayed retirement is consistent with an increase in the employment rate of older workers, however, it is at odds with statistics indicating that the average retirement age has remained surprisingly stable. This article attempts to reconcile the two apparently contradictory trends using a new expected working-life indicator.

Abstract: Background. Computer use is associated with musculoskeletal complaints among office workers. Insufficient exposure diversity between tasks is a proposed etiological factor, but little information exists on diversity of tasks and information and communication technologies (ICT) among office workers. Method. Direct observation and self-report data were collected on tasks performed and ICT used among 24 office workers, over 12 h in work and non-work environments. Self-reports were repeated on four additional days. Results. Observations were for a mean [SD] 642[40] min. Productive tasks comprised 63% of observations, instrumental 17%, self-care 12% and leisure 8%. Non-ICT tasks comprised 44% of observations; New electronic-based ICT 36%; Old paper-based ICT 15%, and Combined ICT tasks 4%. Proportions of tasks and ICT use differed between environments and days. Conclusion. Information about diversity in tasks and ICT provides the basis for future investigations into exposure variation in ICT-intensive environments and possible musculoskeletal health risks. Statement of relevance: Information and communication technologies (ICT) provide office workers access to perform work-related tasks after work hours and in away-from-work locations. Musculoskeletal disorder risk assessment for office workers should account for actual tasks performed over a work day, including away from work exposures. This study provides rich, detailed data on occurrence of tasks performed and ICT used by office workers throughout the day.


Abstract: This article provides an analysis of the evolution of the division of labour in participatory ergonomics (PE) programmes in two worksites. The analysis is based on interviews and field observations in the worksites. In both settings there was meaningful participation by both worker and management members of ergonomic change teams (ECTs) in the hazard assessment and solution identification stages, but as the teams moved to the implementation stage, worker representatives were marginalised and the participatory nature of the programmes was severely curtailed. The removal of workers from the process was the outcome of the interplay among the type of activities pursued in the implementation stage, the skills and knowledge required to carry out those activities, and workers' limited influence in the organisational hierarchies. Findings highlight the salience of the social context in which participatory programmes are located and the importance of examining participatory programmes as they evolve over time. Statement of Relevance: This article contributes to a growing literature on the process and implementation of PE programmes. The article's focus on social and organisational factors that affect the division of labour and attention to the evolution of involvement over time extend current understandings of participation in ergonomics programmes.


Abstract: Work-related injuries impose a significant burden on society. The goal of this study was to delineate the epidemiology and the effect of age on type and mortality after occupational injuries. Patients 16 years of age or older sustaining work-related injuries were identified from the National Trauma Databank 12.0. The study population was stratified into four age groups: 16 to 35, 36 to 55, 56 to 65, and older than 65 years old. The demographic characteristics, type of injury, mechanism of injury, setting of injury, use of alcohol or other illicit drugs, and mortality were analyzed and related to age strata. Overall 67,658 patients were identified. There were 27,125 (40.1%) patients in the age group 16 to 35 years, 30,090 (44.5%) in the group 36 to 55 years, 6,618 (9.8%) in the group 56 to 65 years, and 3,825 (5.7%) older than 65 years. The injury severity increased significantly with age. Elderly patients were significantly more likely to sustain intracranial hemorrhages, spinal, and other skeletal injuries. The overall mortality was 2.9 per cent (1938) with the latter increasing significantly in a stepwise fashion with progressing age, becoming sixfold higher in patients older than 65 years (OR, 6.18; 95% CI, 4.78 to 7.80; P < 0.001). Our examination illustrates the associations between occupational injury and significant mortality that warrant intervention for mortality reduction. There is a stepwise-adjusted increase in mortality with progressing age.


Abstract: Age-related changes in selective attention, inhibitory efficiency, and the ability to form new associations suggest that older adults may have greater difficulty with more complex and less comprehensible symbols. We examined comprehension of symbols varying in terms of ratings of familiarity, complexity, and comprehensibility, by younger (aged 18-35) and older (aged 55-70) adults. It was found that older adults have greater difficulty than younger adults in comprehending warning symbols and that accident scenario training improves comprehension. Regression analyses indicated that familiarity and comprehensibility were important in determining performance on the pre-training comprehension test by both younger and older adults. However, training eliminated the effects of stimulus characteristics for younger adults, while older adults' comprehension continued to be significantly influenced by comprehensibility. We suggest that symbol design incorporates cues to knowledge to facilitate the linkage between
new knowledge (i.e. the warning symbol) and relevant knowledge in long-term memory.

Statement of Relevance: Symbol characteristics play an important role in age-related differences in warning symbol comprehension. To optimise comprehension by older adults, symbols should have a clear relationship with areal-world referent. Alternatively, symbol design could incorporate cues to knowledge to facilitate the linkage between new knowledge and relevant knowledge in long-term memory.


Abstract: BACKGROUND CONTEXT: Many studies report an association between low back pain (LBP) and reduced back muscle endurance and consider this to indicate muscular dysfunction. However, few have investigated the potentially confounding influence of psychological factors on performance during such endurance tests. PURPOSE: This study examined whether psychological factors were associated with "underperformance" on the Biering-Sorensen (BS) test (ie, not performing as well as one is physiologically capable of). STUDY DESIGN/SETTING: Cross-sectional study of the baseline data of patients with chronic (>3 months) nonspecific LBP (cLBP) before participation in a clinical trial of exercise therapy. PATIENT SAMPLE: One hundred forty-eight patients with cLBP (43% men; age, 45+/-10 years). OUTCOME MEASURES: The time for which the modified BS isometric endurance test could be performed to exhaustion minus the time that would have been predicted based on the rate of decline in median frequency of the surface electromyographic (EMG) signal recorded bilaterally from the erector spinae at L3 and L5. METHODS: Back pain and disability, psychological disturbance, catastrophizing, fear-avoidance beliefs, back beliefs, and exercise self-efficacy were measured using validated questionnaires. Patients performed the BS test to exhaustion while physiological muscle fatigability was measured from continuous surface EMG recordings. RESULTS: Multivariable regression analysis controlling for gender revealed that greater psychological disturbance (p=.003) and more negative back beliefs (p=.015) were unique predictors of the extent of "underperformance," accounting for 22.3% variance in expected endurance time minus actual time. CONCLUSIONS: It is important that the underlying nature (psychological or physiological) of performance deficits be identified during such tests because this may influence the interpretation of prospective studies reporting risk factors for LBP and dictate the particular treatment or interventional approach required to remedy the situation in individuals with LBP.


Abstract: BACKGROUND: Work-related injuries result in considerable morbidity, as well as social and economic costs. Pain associated with these injuries is a complex, contested topic, and
narcotic analgesics (NA) remain important treatment options. Factors contributing to NA utilization patterns are poorly understood. This qualitative study sought to characterize the factors contributing to NA utilization amongst injured workers from the perspectives of physicians and pharmacists. METHODS: The study employed concept mapping methodology, a structured process yielding a conceptual framework of participants' views on a particular topic. A visual display of the ideas/concepts generated is produced. Eligible physicians and pharmacists (n=22) serving injured workers in the province of Ontario (Canada) were recruited via purposive sampling, and participated in concept mapping activities (consisting of brainstorming, sorting, rating, and map exploration). Participants identified factors influencing NA utilization, and sorted these factors into categories (clusters). Next, they rated the factors on two scales: 'strength of influence on NA over-utilization' and 'amenability to intervention'. During follow-up focus groups, participants refined the maps and discussed the findings and their implications. RESULTS: 82 factors were sorted into 7 clusters: addiction risks, psychosocial issues, social/work environment factors, systemic-third party factors, pharmacy-related factors, treatment problems, and physician factors. These clusters were grouped into 2 overarching categories/regions on the map: patient-level factors, and healthcare/compensation system-level factors. Participants rated NA over-utilization as most influenced by patient-level factors, while system-level factors were rated as most amenable to intervention. One system-level cluster was rated highly on both scales (treatment problems - e.g. poor continuity of care, poor interprofessional communication, lack of education/support for physicians regarding pain management, unavailability of multidisciplinary team-based care, prolonged wait times to see specialists). CONCLUSIONS: Participants depicted factors driving NA utilization among injured workers as complex. Patient-level factors were perceived as most influential on over-utilization, while system-level factors were considered most amenable to intervention. This has implications for intervention design, suggesting that systemic/structural factors should be taken into account in order to address this important health issue.


Abstract: BACKGROUND CONTEXT: Shock wave and especially ultrasound are commonly used to
treat low back pain (LBP) in routine practice. PURPOSE: To assess the evidence on the efficacy, effectiveness, cost-effectiveness, and safety of ultrasound and shock wave to treat LBP. STUDY DESIGN: Systematic review. METHODS: An electronic search was performed in MEDLINE, EMBASE, and the Cochrane Library databases up to July 2009 to identify randomized controlled trials (RCTs) comparing vibrotherapy with placebo or with other treatments for LBP. No language restrictions were applied. Additional data were requested from the authors of the original studies. The risk of bias of each study was assessed following the criteria recommended by the Cochrane Back Review Group. RESULTS: Thirteen studies were identified. The four RCTs complying with the inclusion criteria included 252 patients. Two of the three RCTs on ultrasound had a high risk of bias. For acute patients with LBP and leg pain attributed to disc herniation, ultrasound, traction, and low-power laser obtained similar results. For chronic LBP patients without leg pain, ultrasound was less effective than spinal manipulation, whereas a shock wave device and transcutaneous electrical nerve stimulation led to similar results. Results from the only study comparing ultrasound versus a sham procedure are unreliable because of the inappropriateness of the sham procedure, low sample size, and lack of adjustment for potential confounders. No study assessed cost-effectiveness. No adverse events were reported. CONCLUSION: The available evidence does not support the effectiveness of ultrasound or shock wave for treating LBP. High-quality RCTs are needed to assess their efficacy versus appropriate sham procedures, and their effectiveness and cost-effectiveness versus other procedures shown to be effective for LBP. In the absence of such evidence, the clinical use of these forms of treatment is not justified and should be discouraged.


http://www.statcan.gc.ca/pub/75-001-x/75-001-x2011004-eng.htm

Abstract: This update provides unionization rates for 2010 and the first half of 2011. It also includes data on earnings, wage settlements, inflation, and strikes and lockouts.


[doi unavailable]


doi: 10.1136/bmj.d6128  [open access]

Abstract: OBJECTIVES: To assess the prevalence of honorary and ghost authors in six leading general medical journals in 2008 and compare this with the prevalence reported by authors of articles published in 1996. DESIGN: Cross sectional survey using a web based questionnaire. SETTING: International survey of journal authors. PARTICIPANTS: Sample of corresponding authors of 896 research articles, review articles, and editorial/opinion articles published in six general medical journals with high impact factors in 2008: Annals of Internal Medicine, JAMA, Lancet, Nature Medicine, New England Journal of Medicine, and PLoS Medicine. MAIN OUTCOME MEASURES: Self reported compliance with International Committee of Medical Journal Editors (ICMJE) criteria for authorship for all authors on the selected articles. RESULTS: A total of 630/896 (70.3%) corresponding authors responded to the survey. The prevalence of
articles with honorary authorship or ghost authorship, or both, was 21.0% (95% CI 18.0% to 24.3%), a decrease from 29.2% reported in 1996 (P=0.004). Based on 545 responses on honorary authorship, 96 articles (17.6% (95% CI 14.6% to 21.0%)) had honorary authors (range by journal 12.2% to 29.3%), a non-significant change from 1996 (19.3%; P=0.439). Based on 622 responses on ghost authorship, 49 articles (7.9% (6.0% to 10.3%)) had ghost authors (range by journal 2.1% to 11.0%), a significant decline from 1996 (11.5%; P=0.023). The prevalence of honorary authorship was 25.0% in original research reports, 15.0% in reviews, and 11.2% in editorials, whereas the prevalence of ghost authorship was 11.9% in research articles, 6.0% in reviews, and 5.3% in editorials. CONCLUSIONS: Evidence of honorary and ghost authorship in 21% of articles published in major medical journals in 2008 suggests that increased efforts by scientific journals, individual authors, and academic institutions are essential to promote responsibility, accountability, and transparency in authorship, and to maintain integrity in scientific publication

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