

attendance of active military personnel is not a reliable measure of disease incidence, prevalence or severity. There is a lack of evidence that aircrew are at increased risk of IBD. Further research is needed to investigate the association between the occupational aviation environment and IBD.

FACTORS AFFECTING RETURN TO WORK FOLLOWING ARTHROSCOPIC ROTATOR CUFF REPAIR: A CASE-CONTROL STUDY IN AN OCCUPATIONAL MEDICINE CLINIC AND SINGLE-SURGEON PRACTICE

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Background: Compensated patients take longer to return to work than their non-compensated counterparts, but the degree to which this occurs is variably reported²⁻⁴. Return to work (RTW) following arthroscopic rotator cuff repair (aRCR) within Australia, under compensable schemes has not been previously reported.

Aim: Determine factors associated with RTW status and time in patients treated with aRCR under state-based compensation schemes, compared to patients treated outside the schemes.

Methods: Patients undergoing aRCR by one surgeon with a minimum one-year follow-up indemnified under workers' or vehicle accident compensation schemes (compensable; CP) were matched 1:1 by age and gender to patients outside any scheme (non-compensable; non-CP). RTW status and time were assessed using chi-square analysis and multivariable linear regression.

Results: From the total ACRs performed (N = 1054), 29 CP patients were matched 1:1 with non-CP patients. A proportion of CP patients (17.2 vs 0%, P<0.001) never returned to work and a lower proportion returned to pre-injury duties (3 vs 52%, P<0.01). The median time to RTW did not differ (P=0.86) between groups (5.1 weeks, IQR 2.6-8.6 vs 4.4, 0.7-11.1). Symptom duration and current smoking status were significantly (P<0.05) associated with longer time to first RTW.

Conclusion: CP patients are at increased risk of not returning to work after aRCR. However, for those that do, compensation was not associated with the time of first RTW. Interventions for smoking cessation and reducing symptom duration could improve future outcomes.

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THE EFFICACY OF EARPLUGS AT A MAJOR HAZARD FACILITY

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Background: At a major hazard facility, sporadic cases of occupational noise-induced hearing loss have occurred despite the use of hearing protection devices. Preliminary testing with a system for measuring personal attenuation ratings (PAR) suggested that earplugs may not achieve the attenuation implied by their Class in field-use conditions.

Aims: The aims of the study were to:

- 1 measure the PAR of the earplugs

- 2 check if they meet the minimum criteria for their class when tested in field-use conditions
- 3 examine the likelihood of the earplugs achieving a 'pass' based on their type, and
- 4 compare the PARs.

Methods: A cross-sectional study was performed with 65 volunteers. Participants were recruited from Operations and Maintenance Technicians at the major hazard facility. The participants had their PARs checked with different earplug types using the 3M™ E-A-Rfit™ system. The Earplug is deemed to have achieved a 'pass' if it achieved 22 dB attenuation for 80% of users (the definition for Class 4 hearing protection).

Results: None of the earplug types achieved the attenuation implied by their class rating when tested in field-use conditions. There were statistically significant differences in the frequency of achieving a 'Pass', and in PAR, depending on earplug type. Roll-down foam earplugs may provide superior attenuation compared to pre-moulded earplugs.

Conclusions: Earplugs are unlikely to achieve the attenuation found in laboratory conditions during field-use. Personalised selection of hearing protection devices based on fit-testing results should be encouraged.

DO ANTIBIOTICS HAVE A ROLE IN TREATING INJURED WORKERS WITH CHRONIC LOW BACK PAIN? SYSTEMATIC REVIEW AND META-ANALYSIS.

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Background: In patients with chronic low back pain (CLBP), Modic-1 endplate signs on MRI have been linked to chronic infection with bacteria, particularly P. Acnes. In a recent literature review, for biopsied disc material, the pooled estimate for the proportion of positive samples for bacteria was 25%. Two recent trials of antibiotics for CLBP and Modic-Type-1 changes in vertebral endplates adjacent to disc herniation, had controversial and divergent conclusions.

Objectives: This is a systematic review and meta-analysis of randomised placebo-controlled trials (RCT) to investigate antibiotic treatment for workers with CLBP & Modic-changes and to generate research hypotheses.

Methodology: We performed a database search for RCT for antibiotics and CLBP and applied the Risk-of-Bias-2 protocol. We extracted outcomes and adverse events then performed random effects meta-analysis. A minimum important change on Roland Morris Disability Questionnaire (RMDQ) of 5 points was pre-specified.

Results: Three trials were included that investigated oral amoxicillin, or amoxicillin with clavulanate. Each trial reported a statistically significant benefit of antibiotics. Meta-analysis resulted in an estimated distribution for means that had an overall mean of -4.2 (95% CI: -6.6 to -1.6) points on the RMDQ scale. There was high risk of bias in two studies. There was heterogeneity in the proportion of patients with recent surgery, and baseline disability.

Conclusion: The overall estimated benefit of antibiotics for CLBP and Modic-1 changes was statistically significant but had borderline clinical effect. In the small proportion of patients expected to have chronic infection there is probably an important benefit. Further research should focus on clinical investigations for patient selection.

OCCUPATIONAL ASBESTOS EXPOSURE AND KIDNEY CANCER: SYSTEMATIC REVIEW AND META-ANALYSIS OF COHORT STUDIES

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Background: Asbestos is classified by the International Agency for Research on Cancer as a Group 1 carcinogen. The association between occupational asbestos exposure and kidney cancer is unclear.

Objectives: This study aimed to determine the mortality and incidence of kidney cancer in workers who have been exposed to asbestos. We