This drawing forms part of ‘War Art & Surgery’ - a reportage drawing project. Drawings reflect the training of military medical personnel pre deployment and the rehabilitation of servicemen and women following surgery.

The project commemorated the centenary of the outbreak of World War 1 by reflecting the part played by military surgery one hundred years ago and its continuing tradition today. It was a collaboration between Julia Midgley and the Royal College of Surgeons of England.

For further information about this project visit -
http://www.rcseng.ac.uk/museums/hunterian/war-art-and-surgery

Julia Midgley has practised as a reportage/documentary artist with a focus on war artists and surgery for several decades. Following a 1999 Artist’s Residency at the Royal Liverpool University Hospital Trust her drawings of 20th Century medicine were exhibited at The Royal College of Surgeons of England. It was there that she first encountered Henry Tonks’ First World War drawn archive of surgeon Harold Gilles’ reconstructive surgery on injured soldiers.

Julia is currently working on a project to record equine skeletons of significance.

For more information please visit: - www.juliamidgley.co.uk or http://juliamidgleydrawings.blogspot.co.uk/
Introduction

The DefMed Bulletin service offers a selection of new literature that has been discovered during the period on the cover of this Bulletin. It includes any literature in the English language that might be of interest, as well as some foreign language articles, and covers topics that might be of interest to anyone working in the field of military clinical practice.

Articles are gathered together in broad subject groupings and are currently organised alphabetically by grouping.

Each entry is marked with a unique accession number (e.g. 2017-104 0001) for ease of retrieval and this number should be used when requesting material from the Burnett Library.

Please see the article of the month, Deep and profound hypothermia in haemorrhagic shock, friend or foe? A systematic review – an online article from the JRAMC. Find under Trauma Medicine 2017 104 136.

If any articles are required, readers are asked to complete an article request form and e-mail this to the Burnett Library at the e-mail address below.

I would particularly like to thank Paul Dowling (Burnett Library), for his contributions to this edition.

Jenny Lewis
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jenny.lewis186@mod.uk

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## Contents

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADDITIVE DISORDERS</td>
<td>1</td>
</tr>
<tr>
<td>ANATOMY &amp; PHYSIOLOGY</td>
<td>7</td>
</tr>
<tr>
<td>CHEMICAL BIOLOGICAL RADIOLOGICAL NUCLEAR WARFARE (CBRN)</td>
<td>11</td>
</tr>
<tr>
<td>CRITICAL CARE</td>
<td>12</td>
</tr>
<tr>
<td>DENTISTRY</td>
<td>14</td>
</tr>
<tr>
<td>DERMATOLOGY</td>
<td>15</td>
</tr>
<tr>
<td>DIET &amp; NUTRITION</td>
<td>16</td>
</tr>
<tr>
<td>DISASTERS, DISASTER &amp; EMERGENCY PLANNING, RESCUE WORK</td>
<td>17</td>
</tr>
<tr>
<td>EMERGENCY MEDICINE</td>
<td>21</td>
</tr>
<tr>
<td>ENDOCRINOLOGY</td>
<td>22</td>
</tr>
<tr>
<td>FITNESS LEVELS &amp; PHYSICAL PERFORMANCE</td>
<td>23</td>
</tr>
<tr>
<td>HAEMATOLOGY</td>
<td>25</td>
</tr>
<tr>
<td>HISTORY OF MEDICINE</td>
<td>27</td>
</tr>
<tr>
<td>INFECTIOUS AND COMMUNICABLE DISEASES</td>
<td>28</td>
</tr>
<tr>
<td>MEDICAL EDUCATION</td>
<td>35</td>
</tr>
<tr>
<td>MENTAL HEALTH</td>
<td>37</td>
</tr>
<tr>
<td>MICROBIOLOGY &amp; IMMUNOLOGY</td>
<td>40</td>
</tr>
<tr>
<td>MILITARY DEPENDANTS</td>
<td>42</td>
</tr>
<tr>
<td>MILITARY MEDICINE</td>
<td>49</td>
</tr>
<tr>
<td>NAVAL MEDICINE</td>
<td>52</td>
</tr>
<tr>
<td>NEPHROLOGY</td>
<td>53</td>
</tr>
<tr>
<td>NEUROLOGY</td>
<td>54</td>
</tr>
<tr>
<td>NURSING</td>
<td>58</td>
</tr>
<tr>
<td>OBSTETRICS</td>
<td>61</td>
</tr>
<tr>
<td>OCCUPATIONAL HEALTH</td>
<td>63</td>
</tr>
<tr>
<td>ONCOLOGY</td>
<td>66</td>
</tr>
<tr>
<td>OPHTHALMOLOGY</td>
<td>68</td>
</tr>
<tr>
<td>ORTHOPAEDICS</td>
<td>69</td>
</tr>
<tr>
<td>OTOLARYNGOLOGY</td>
<td>72</td>
</tr>
<tr>
<td>PHARMACOLOGY &amp; TOXICOLOGY</td>
<td>73</td>
</tr>
<tr>
<td>POSTTRAUMATIC STRESS DISORDER (PTSD)</td>
<td>75</td>
</tr>
<tr>
<td>PRIMARY CARE</td>
<td>84</td>
</tr>
<tr>
<td>PSYCHOLOGY</td>
<td>87</td>
</tr>
<tr>
<td>PSYCHIATRY</td>
<td>95</td>
</tr>
<tr>
<td>PUBLIC HEALTH</td>
<td>97</td>
</tr>
<tr>
<td>RADIOLOGY</td>
<td>99</td>
</tr>
<tr>
<td>REHABILITATION</td>
<td>100</td>
</tr>
<tr>
<td>RESPIRATORY &amp; PULMONARY HEALTH</td>
<td>102</td>
</tr>
</tbody>
</table>
**Alcohol Consumption and Binge Drinking in Young Men as Predictors of Body Composition Changes During Military Service**

**Source**
Alcohol & Alcoholism 2017 52 (3) 365-371

**Author(s)**

**Abstract**
Aims To evaluate the influences of alcohol consumption frequency and binge drinking on changes in the body composition, lifestyle habits and physical fitness of healthy young men during military service.

Methods A population-based study of men performing their military service in the Sodankylä Jaeger Brigade, Finland in 2005. Body composition, fitness and lifestyle habits were evaluated at baseline and 6–12 months follow-up. Alcohol consumption frequency and binge drinking were categorized as: ‘not at all’, ‘at least once a month’ and ‘at least once a week’.

Results Data were available for 983 participants. Mean (SD) age was 19.2 (1.0) years. At baseline, participants who reported binge drinking at least once a week (29.8%) had the most unfavourable body composition, lifestyle habits and physical fitness compared with the group with no binge drinking. Significant ($P < 0.05$) mean reductions in % body fat (−2.3%) and weight (−1.8 kg), as well as improvements in lifestyle habits and physical fitness were observed in the weekly binge drinking group during the military service. The reductions in relative weight (%) and % body fat were associated with binge drinking at least once a week (regression coefficient for relative weight $−1.39$, 95% CI $[−2.32; −0.45]$, $P = 0.004$, and for % body fat $−0.68$, 95% CI $[−1.35; −0.01]$, $P = 0.049$).

Conclusion Frequent binge drinking is associated with poorer body composition, lifestyle habits and fitness among young men. Frequent binge drinkers may obtain the greatest benefit of military-service-based exercise intervention, as reflected in the improvements in body composition, lifestyle habits and physical fitness.

Short summary frequent binge drinking is associated with poorer body composition, lifestyle habits and fitness among young men. The greatest benefit of military service comprehending exercise intervention was observed among those with binge drinking once a week at the baseline, with favourable changes in lifestyle factors, body composition and fitness.
College students with military experience report greater alcohol-related consequences.

Source
Military Psychology 2017 29 (3) 234-243
Author(s)
Mitchell,M.A., and Blosnich,J.R.

Abstract
This study examined associations among military experience, alcohol use, and alcohol-related consequences among a large national sample of 27,249 students pursuing postsecondary education. Because of the uniqueness of the developmental period of emerging adulthood, we stratified all analyses by age groups of 18–24 and 25 and older. There were no differences between students with and without military service history in terms of 3 indicators of alcohol use: alcohol consumption in the last 30 days, binge drinking in the last 2 weeks, and drinking and driving in the last 30 days. There were, however, several differences in self-reported consequences of drinking. Among individuals ages 18–24, students with military service history had nearly twofold increased odds of police encounters as a consequence of drinking (adjusted odds ratio [aOR] = 1.91, 95% confidence interval [CI] [1.02, 3.57]) and increased odds greater than twofold of experiencing nonconsensual sex (aOR = 2.68, 95% CI [1.17, 6.19]). Among both age groups, students with military service history reported greater odds of having unprotected sex as a consequence of drinking when compared to students without military service history. Research is needed to identify the reasons why alcohol use results in these particular negative consequences for students with military service history, which can inform prevention and intervention efforts.

Medicinal versus recreational cannabis use: Patterns of cannabis use, alcohol use, and cued-arousal among veterans who screen positive for PTSD

Source
Addictive Behaviors 2017 68 ( ) 18-23
Author(s)
Loflin,M., Earleywine,M., et al.
Loflin, Mallory; ORCID: 0000-0002-1388-4437

Abstract
Introduction: The present study is the first to test whether veterans who use cannabis specifically for the purposes of self-medication for their reported PTSD symptoms differ from veterans who use cannabis medicinally for other reasons, or recreationally, in terms of patterns of cannabis use, use of alcohol, and reactivity to written combat trauma reminders. Methods: Assessment measures were administered online to a sample of veterans with a history of cannabis use (n = 1971). Cued arousal was assessed pre/post via a prompt about combat experiences. Hypotheses were tested using a series of Bonferroni corrected one-way analyses of variance, t-tests, bivariate and
partial correlations, and a Chi-square test. Results: Compared to recreational users, veterans who identify as medicinal cannabis users reported greater combat exposure \( (d = 0.56) \), PTSD symptoms \( (d = 1.02) \), subjective arousal when cued \( (d = 0.25) \), and cannabis use \( (d_{\text{frequency}} = 0.40; d_{\text{density}} = 0.42) \), but less alcohol use \( (d = 0.28) \). Few differences were observed between medicinal users who reported using for PTSD versus those who reported using for other reasons. Conclusions: Compared to those who use cannabis recreationally, veterans who report that they use cannabis medicinally use more cannabis and endorse significantly more symptoms of arousal following a prompt about combat trauma experiences.

2017 104 004

Perceived Deterrence of Cigarette Use and Smoking Status among Active Duty Military Personnel.

Source
Military Medicine 2017 182 (5) e1733-e1741
Author(s)
Ulanday,K.T., and Jeffery,D.D.,

Abstract
Background: Tobacco use in the military adversely affects fitness, readiness and performance levels, and increases health care costs. In 2011, cigarette use in the military was higher than in the civilian population (24.0% vs. 21.2%). We examined the perceptions of active duty service members with respect to supervisory and military installation determent of cigarette smoking. Methods: Using the Department of Defense's 2011 Health-Related Behaviors Survey (HRBS) of active duty military personnel \( (N = 39,877) \) data, a multivariate logistic regression estimated the association of personnel's perception of leadership discouraging cigarette use with smoking status, controlling for covariates \( (n = 23,354) \). Results: Those who perceived their supervisor as “Somewhat” \( (\text{adjusted odds ratio} [\text{AOR}] 1.41, 95\% \text{ confidence interval} [\text{CI}] [1.29, 1.54]) \) or “Strongly” \( (\text{AOR} 1.22, 95\% \text{ CI} [1.09, 1.37]) \) discouraging of cigarette use had higher odds of smoking compared to those who perceived supervisors “Not at all” discouraging use. Odds of currently smoking increased with perceptions of increasing discouragement by installation, from “Somewhat” \( (\text{AOR} 1.64, 95\% \text{ CI} [1.49, 1.80]) \) to “Strongly discourages” cigarette use \( (\text{AOR} 1.71, 95\% \text{ CI} [1.50, 1.95]) \). As expected, the strongest correlate of current smoking was having friends who smoke \( (\text{AOR} 13.62, 95\% \text{ CI} [11.53, 16.07]) \). Other significant covariates in the model focused on current smokers included high risk for alcohol problems, specifically hazardous drinking \( (\text{AOR} 2.57, 95\% \text{ CI} [2.25, 2.93]) \), harmful drinking \( (\text{AOR} 5.46, 95\% \text{ CI} [3.57, 8.35]) \), and possible alcohol dependence \( (\text{AOR} 1.43, 95\% \text{ CI} [1.07, 1.91]) \); being underweight \( (\text{AOR} 1.72, 95\% \text{ CI} [1.19, 2.53]) \); high anxiety \( (\text{AOR} 1.31, 95\% \text{ CI} [1.18, 1.46]) \); high anger \( (\text{AOR} 1.20, 95\% \text{ CI} [1.03, 1.39]) \); and high overall stress \( (\text{AOR} 1.17, 95\% \text{ CI} [1.07, 1.27]) \). Among the demographic covariates, higher rates of smoking were found in all levels of enlisted military rank, most notably among E1–E4 \( (\text{AOR} 7.22, 95\% \text{ CI} [5.64, 9.21]) \) and E4–E% \( (\text{AOR} 8.60, 95\% \text{ CI} [6.79, 10.91]) \); non-Air Force affiliation; longer length of combat experience; males; non-Hispanic whites; married personnel without a spouse present; job classifications in combat,
administration, maintenance, or food service; and duty station in the continental United States. Additional analyses found that personnel with high overall stress were less likely to perceive their supervisor (odds ratio 0.67, 95% CI [0.62, 0.73]) and installation (odds ratio 0.69, 95% CI [0.63, 0.76]) as strongly discouraging smoking compared to those with low overall stress.

Conclusion: Perceived influence of tobacco deterrence by military leadership is associated with smoking behaviors of active duty personnel. Paradoxically, those who perceived the strongest discouragement by military leadership had the highest rates of smoking. We hypothesize that current smokers may have a heightened awareness of antismoking messages and policies, and are more sensitive to threats that impinge upon freedom to smoke or aim to restrict a substance used for stress reduction. Results support military tobacco control efforts extending beyond individual-level approaches. A focus on multilevel influences of health behavior, emphasizing effective leadership, social and environmental changes, is needed to address military smoking behaviors.

2017 104 005

**Tobacco use among serving army personnel: An epidemiological study.**

**Source**
Medical Journal Armed Forces India 2017 73 (2) 134-139

**Author(s)**

**Abstract**
Background India has consequential burden of tobacco related disease and death. Though there are surveys conducted at national and regional level yet the information about tobacco consumption among army personnel is scarce. Thus an epidemiological study was conducted to estimate the prevalence and assess determinants of tobacco consumption amongst army personnel.

**Methods** A community based cross sectional study was conducted using simple random sampling to enroll 380 personnel. Data was collected using a pretested and validated questionnaire with relevant domains.

**Results**
The age of participants was 33 ± 7 years. The prevalence of ever tobacco users was 47.90% (95% CI: 42.78–53.05) and of current tobacco users was 35.00% (95% CI: 30.21–40.03). No association was found between ever users and age group, monthly income, occupation, length of service, family member usage (p > 0.05). Among smokeless tobacco forms, Khaini was most preferred (49.45%) followed by Gutkha. Majority of them (41.21%) were moderate tobacco chewers. Tobacco user friends (53.85%) were the main stimulants, which induced respondents to start tobacco. The important source of tobacco procurement was local vendor. 91.76% ever user were aware of the ill-effects of the tobacco use. There was statistically significant association for knowledge regarding tobacco use being harmful to family members between current users and ever users (p = 0.036).

**Conclusion**
The study highlights a high prevalence of tobacco user amongst army personnel. Reduction of easy accessibility, Behaviour Change Communication activities and stricter implementation of regulations are urgently required.
A Tobacco-Free Medical Campus Policy Is Associated With Decreased Secondhand Smoke Exposure and Increased Satisfaction Among Military Medical Employees: Results of a Mixed-Methods Evaluation.

Source
Military Medicine 2017 182 (5) e1724-e1732

Author(s)
Santo,T.J., and Ellis,S.,

Abstract
Introduction: Tobacco control is an ongoing concern for the U.S. Army. Although tobacco use is currently prohibited within all military hospitals and clinics, known as military treatment facilities (MTFs), no such facility had implemented a tobacco-free medical campus (TFMC) policy before 2012. This evaluation examined the effects of one Army installation's TFMC policy implementation at its medical facilities. Materials and Methods: Online questionnaires were distributed to medical campus employees, including Active Duty Soldiers, civilians, and contractors, before policy implementation (N = 1,210) and 12 months following policy implementation (N = 1,147). Chi-square analyses, independent t tests, and logistic regression models were utilized to examine pretest/post-test changes in employees' secondhand smoke (SHS) exposure; tobacco use, motivation to quit, and cessation; and health outcomes. Twenty-three focus groups, interviews, and informal discussions with 65 employees and patients were conducted 13 months after initial policy implementation to capture both the intended and unintended policy effects. Results: After controlling for demographic characteristics, the study found that employees had more than twice the odds of exposure to SHS in the workplace at baseline than at 12-month follow-up (odds ratio: 2.06, 95% confidence interval: 1.73–2.46, p < 0.001). Employees also reported a lower prevalence of diagnosis with chronic bronchitis (p < 0.05) at follow up compared to baseline. Although the mean number of sick days taken for respiratory illness decreased over time, results were not significant after controlling for demographic factors. No significant differences existed in tobacco-use prevalence or quit rates among tobacco users over time. Employees reported significantly higher levels of satisfaction with a TFMC policy than the original policy (p < 0.001) though this finding was moderated by smoker status such that smokers reported lower levels of satisfaction with the policy over time. Qualitative findings revealed that the most common policy effect was that the policy caused smokers to change the location of where they used tobacco to off campus. Findings further revealed several unintended policy effects, including safety concerns and greater visibility of smokers in front of the MTF. Conclusion: The first Army MTF TFMC policy was associated with reported reductions in SHS exposure and improvements in some short-term health outcomes. The policy had no observed association with tobacco-use prevalence, motivation to quit, or cessation at 12-month follow-up. Focus group participants discussed several positive and negative policy effects. These policies should be expanded and studied in more depth across military installations, and policy makers should plan mitigation strategies to reduce unintended effects. This is an important step in military tobacco control, but additional efforts will be necessary to curb tobacco use within this population.
Winning the War on Tobacco through Leadership at the Lowest Level.

Source
Military Medicine 2017 182 (5) 1584-1586

Author(s)
Thompson, A.M., and Adelman, W.P.,

Abstract
Tobacco use in the military is a significant problem that is well described, well researched, and remains unsolved.1–4 Tobacco use undermines readiness, and has significant health and economic costs.1,5–7 Prior interventions to improve the health and readiness of the force, by reducing tobacco use in the U.S. military, have been inconsistent and are influenced by many factors, including the tobacco industry.2,8 Numerous leaders have voiced the need for a tobacco-free military, including recent repeated calls from the Secretary of Defense and other military leaders to reduce tobacco use.5,9 Despite these recognitions and interventions, the military is losing the war on tobacco, as evidenced by the marked differences in tobacco use among military members compared to their civilian counterparts.1,2,4 Perhaps most worrisome of all, a significant number of nonsmokers initiate tobacco use after joining the military.9 However, since 2015 with increased regulation regarding the use of tobacco in government buildings and vehicles, there is a new, and potentially more powerful weapon in the war on tobacco: our lowest level tactical leaders.

See also


Predisposing personality traits and socio-familial factors of tendency toward substance use among soldiers. Under Psychology.
Rare Cause of Foot Pain: Osseous Coalition of the Third Metatarsal and Lateral Cuneiform.

Source
Military Medicine 2017 182 (5) e1814-e1815
Author(s)
Abda,R.B., and Wuerdeman,M.,.

Abstract
Tarsometatarsal osseous coalition is extremely rare. Herein, we present a case of osseous coalition between the base of the third metatarsal and the lateral cuneiform. The patient is a 38-year-old male who presented with an acute episode of foot pain following strenuous activity. Radiographs of the left foot demonstrated an osseous coalition between the third metatarsal base and the lateral cuneiform. Tarsal coalition is a congenital defect that results when adjacent tarsals fail to separate during embryonic development. According to the literature, total osseous coalition is less common than cartilaginous coalition. This case serves as only the second known documented case of osseous coalition between the third metatarsal and the lateral cuneiform, with the first case published in an orthopedic journal. To our knowledge, no case of third metatarsal-lateral cuneiform coalition has been published in the literature otherwise. The intent of this publication is to add to the database of tarsometatarsal coalition cases with a specific emphasis on bony coalition between the third metatarsal and lateral cuneiform.
Biochemical analysis of cerebrospinal fluid in the laboratories of deployed medical treatment facilities: are Multistix 10 SG strip and iSTAT useful?

Source
JRAMC Online article 10th May 2017

Author(s)
Bertrand Lefrere, J Plantamura, C Renard, F Ceppa and H Delacour.

Abstract
Introduction During military deployment, the diagnosis and the management of acute bacterial meningitis can be problematic, as deployed Medical Treatment Facilities (MTFs) often have a limited laboratory diagnostic capability. However, French Role 2 and 3 MTFs have point-of-care (POC) testing to perform urinary (Multistix 10 SG strip) and blood (iSTAT handheld analyser) biochemical testing mentioned in AMedP8.5. The purpose of this study was to compare the accuracy of this urine test strip and of the iSTAT CHEM8 and CG4 cartridges with a standard hospital bench top analyser in order to determine if these POC devices have a potential role in the biochemical analysis of cerebrospinal fluid (CSF protein, CSF glucose and CSF lactate, respectively). Methods Agreement between the index methods and the reference methods (suitable kits on the Cobas 6 000 System) was evaluated by parallel testing of 30 CSF samples by both techniques. For CSF protein, agreement between the strip and the reference method was evaluated determining the κ coefficient. For CSF glucose and CSF lactate subgroups, least squares linear regressions were calculated and Bland-Altman analyses were performed. Results The Multistix 10 SG strip can be used to make a semiquantitative determination of CSF protein. A good agreement between the strip and the reference method was observed (κ coefficient: 0.93 (IC95 0.82 to 1)). This strip is thus well adapted to demonstrate an elevation of CSF protein level as observed in acute bacterial meningitis. The iSTAT CHEM8 and CG4+ cartridges correlated well with the reference methods for the determination of CSF glucose and CSF lactate, respectively ($r^2$>0.98) but exhibited a negative bias (~ −7% and ~ −15%, respectively). Conclusions The combined use of the Multistix 10 SG strip and of the iSTAT system appears to be an attractive solution for the biochemical investigation of CSF in medical treatment facilities with limited laboratory diagnostic capability.
Bringing to Light Symptoms and Treatments of Effort Thrombosis (Paget–Schroetter Syndrome) in the Military Population, a Case Study.

Source
Military Medicine 2017 182 (5) e1826-e1829
Author(s)
Ringhouse,B., and Jackson,C.,

Abstract
Background: Effort thrombosis, or Paget–Schroetter Syndrome, is an activity-induced upper extremity deep vein thrombosis affecting the axillary and/or subclavian vein. It is a rare disorder affecting 2 per 100,000 person years and mainly occurring in young, active individuals after repetitive upper extremity exertion. Effective diagnosis and management of this disorder has been difficult to study given the syndrome’s rarity. Methods: We discuss and evaluate the case of a 38-year-old muscular male Marine who presented to the primary care clinic following an incorrect diagnosis during an emergency room visit where he was evaluated and treated for a right pectoralis muscle strain while having symptoms suggestive of upper extremity vascular congestion, including pain and edema. Findings: Given this presentation in a concentrated population such as the military, the primary care provider’s suspicion of effort thrombosis was heightened. This patient was directed for lab and radiology examination followed by vascular surgery evaluation to be treated with catheter-directed thrombolysis, anticoagulation, and a first rib resection. Discussion: Though rare, effort thrombosis is of particular importance in our relatively young, athletic population. A missed or delayed diagnosis could lead to lifelong disability. Awareness of this condition’s presentation, inciting factors, and potential sequelae is important to minimize mortality and morbidity.

A comparison of Cornell & Sokolow-Lyon electrocardiographic criteria for left ventricular hypertrophy in a military male population in Taiwan: The cardiorespiratory fitness & hospitalization events in armed forces study.

Source
Cardiovascular Diagnosis and Therapy 2017 7 (3) 244-251
Author(s)
Su F.Y., Li Y.H., et al.

Abstract
Background: The Cornell and Sokolow-Lyon electrocardiography (ECG) criteria have been widely used for diagnosing left ventricular hypertrophy (LVH) in patients with hypertension. However, the correlations of these ECG criteria with LVH were rarely compared in military members who received rigorous training, particularly of the Asian male population. Methods: We compared the Cornell voltage and product criteria with the Sokolow-Lyon criteria for the echocardiographic LVH in 539 military male members, ages 18-
50 years and free of hypertension in the Cardiorespiratory fitness and Hospitalization Events in armed Forces (CHIEF) study in Taiwan. Pearson's correlation coefficient was used to determine the association of each ECG criterion with the index of left ventricular mass (LVM, g)/height (m)^2. The sensitivities and specificities were estimated using a receiver-operating characteristics (ROC) curve in relation to the echocardiographic LVH which was defined as LVM index >=49 g/m^2.7. Results: The correlations of the Cornell voltage and product criteria (r=0.24 and 0.26 respectively, both P.<0.1) in the area under the ROC curve analysis. Conclusions: The Cornell ECG criteria for the echocardiographic LVH had better performance than the Sokolow-Lyon criteria in a young military male cohort in Taiwan.
Syria chemical attacks: preparing for the unconscionable.

Source
Lancet 2017 389 (10078) 1501-1501

Author(s)
Zarocostas, J.,

Abstract
The suspected chemical attack in Khan Shaykhun comes off the back of the systematic targeting of Syria’s health system.
Successful Implementation of Low-Cost Tele-Critical Care Solution by the U.S. Navy: Initial Experience and Recommendations.

Source
Military Medicine 2017 182 (5) e1702-e1707

Author(s)
Davis,K., and Perry-Moseanko,A.,

Abstract
Intensivist physician involvement has been shown to improve outcomes for critically ill patients. Unfortunately, the number of Intensivists nationally is unable to meet the current demand. Similar to the civilian community, the Navy critical care workforce is limited by available resources. Tele-critical care (TCC) has recently been shown to improve outcomes for critically ill patients, and has been suggested as a suitable means of extending Intensivist expertise. Naval Hospital Camp Pendleton (NHCP) is a small community hospital located 41 miles north of Naval Medical Center San Diego (NMCSD). NHCP operates a relatively low-volume six-bed medical-surgical intensive care unit. The Intensivist staffing of NHCP has been variable, ranging from 3 Intensivists to periods of time with no on-site Intensivists. This intermittent staffing has led to (1) network disengagements, (2) unnecessary transfers to NMCSD, and (3) adverse outcomes for critically ill patients cared for at NHCP without Intensivist involvement. In early 2014, NMCSD established a TCC system to address this staffing challenge. Through the TCC program, the tele-Intensivist at NMCSD provides 24/7 coverage for patients located at NHCP using low-cost, off-the-shelf, synchronous high-definition video-teleconferencing equipment, and remote access to electronic medical record, imaging studies, and laboratory data. The tele-Intensivist also participates in multidisciplinary teaching rounds with the NHCP house staff. Several medical protocols have also been developed and implemented as part of the TCC program. When comparing the 12 months before implementation with the 19 months following implementation, we found (1) a trend toward increase volume of admissions per month (22.9 ± 7.5 vs. 27 ± 6.6, p = 0.11), (2) a decrease in total number of avoidable disengagements (12 ± 0.9 vs. 0, p = 0.0008), (3) increased maximum Acute Physiology and Chronic Health Evaluation II score per month (17.22 ± 2.2 vs. 21.8 ± 5.5, p = 0.018), and no adverse outcomes related to the TCC system. This reduction in disengagements correlated with a savings in out-of-network expenditures of $1.3 million over the 19 months of program operation. There was no change in either the patients' length of stay or the number of patients transferred to NMCSD. TCC improves readiness by increasing the volume and acuity of critical care patient encounters at the spoke hospital. TCC can also enhance Graduate Medical Education by providing Intensivist teaching, and supports the concept of “Regionalized Care” by improving the integration of care between hospitals. The quality of care is improved through the more rapid transfer of patients who require a higher level of care, standardization of care through protocols, and the Intensivist expertise that is applied to patients kept at the smaller facility. The value of care increased through both enhanced
quality, and the cost savings associated with decreasing network disengagements. Leveraging new technology to provide remote care for our sickest beneficiaries has been proven a successful solution to the dilemma of limited Intensivist staffing. Leadership should consider TCC as a tool to extend Intensivist expertise to all of our small hospitals, and should explore the application of synchronous telehealth within the operational environment where similar staffing challenges exist.
Dental emergencies in Burkina Faso armed forces.

Source
Dental and Medical Problems 2017 54 (1) 49-51
Author(s)

Abstract
Background. Dental emergencies affect the mission of deployed units. During military operations, the definition of dental emergency is different from that which is commonly accepted in dentistry. There is no notion of seriousness or need for urgent care. A considerable number of studies concerning American, French and other armies exist in the literature. This is the first study in Burkina Faso. Objectives. The purpose of this study was to quantify the dental emergency rate observed in Burkina Faso soldiers deployed in Mali and to determine the percentage of dental emergencies. Material and methods. All the reasons for dental emergencies, between February 2015 and January 2016, were documented from the data of the register of clinical activities from the dental clinic of Timbuktu level 1 hospital. Results. Caries accounted for 47.1% of dental emergencies. The second most common reason for visiting the dental clinic was periodontal diseases (19.3%), followed by lost crowns (9.7%). Fractured teeth caries accounted for 9% of emergencies and 7.1% of emergencies were attributed to infections. The remaining visits for dental emergencies accounted for 7.8%. The dental emergency rate for Burkina Faso Forces based in Mali is 182 per 1,000 soldiers per year. Conclusions. Caries are the main reason why soldiers went to the dental clinic. Dental emergencies can significantly affect the mission of the deployed unit.
DERMATOLOGY

See also

Under Infectious And Communicable Diseases.
Meat and masculinity in the Norwegian Armed Forces

Source
Appetite 2017 112 ( ) 69-77
Author(s)
Kildal,C.L. and Syse,K.L.

Abstract
In 2013, the Norwegian Armed Forces decided to introduce a meat reduction scheme in its military mess halls, for both health reasons and environmental concerns. This article explores Norwegian soldiers' reactions to the introduction of Meat free Monday, and their attitudes towards reducing meat consumption. As of yet, Meat free Monday has not been implemented due to both structural and contextual challenges. We explore both the process and potential of the Norwegian military’s Meat free Monday initiative to promote sustainable and climate friendly diets. We found significant barriers preventing the military from implementing Meat free Monday. The main reason behind the resistance to reduce meat consumption among Norwegian soldiers was meat's associations with protein, masculinity and comfort. Our results underline the importance of acknowledging the social and cultural role of food. The study is qualitative and uses focus group interviews as its main methodology.
Alcohol and substance use in humanitarian and post conflict situations.

**Source**
Eastern Mediterranean Health Journal 2017 23 (3) 231-235

**Author(s)**
Hanna,F.B.,

**Abstract**
A wide range of substance use problems are prevalent in a variety of humanitarian settings. The Inter Agency Standing Committee (IASC) guidelines on mental health and psychosocial support during emergencies highlights that during humanitarian and post conflict situations, substance use is associated with problems including gender-based violence, organized crime and the serious neglect of children. Although substance use isa public health issue in humanitarian settings it has always been a neglected area of public health with very limited information available in both published and grey literature on this matter. This review presents an overview of the problem and existing assessment and interventions tools to address substance use in conflict and post-conflict situations.

Building Physician Networks as Part of the Zika Response.

**Source**
Disaster Medicine and Public Health Preparedness 2017 11 (2) 259-261

**Author(s)**
Heard-Garris,N., and Arora,S.,

**Abstract**
The global community needs to easily identify and respond to new and reemerging threats, such as H1N1, Ebola, and most recently Zika. Clinicians are often the first-line providers to recognize these threats, but yet have few opportunities to learn from each other in real time. In this concept article, we describe the ways clinical information is traditionally shared during a public health emergency and then introduce new mechanisms to facilitate physician communication and learning as a part of the response to Zika.
Continuous Development of a Major Incident In-Hospital Victim Tracking and Tracing System, Withstanding the Challenges of Time.

Source
Disaster Medicine and Public Health Preparedness 2017 11 (2) 244-250

Author(s)
Haverkort, J.J.M., and Bouman, J.H.,

Abstract
To describe the development of the Patient Barcode Registration System (PBRS) over time and confirm the usability and feasibility of the system’s latest version during a large trauma drill. The development of a PBRS started around 1993 aiming to provide an effective tool for patient registration, tracking, and tracing during major incidents. The PBRS uses wristbands with barcodes to follow and register patients in the care process. During a large trauma drill, 120 patients and 40 relatives were registered and traced in the system. Errors in registration, tracking, and tracing of persons were registered. Of the 120 patients, no patient data were lost and patients could be traced in real time throughout the treatment process by the command team. Strategic decisions could be made based on the information provided by the system. Patient relatives were easily matched and government agencies received regular updates on the number and characteristics of the patients. The PBRS is a usable, feasible, and sustainable patient tracking and tracing tool to be used during the hospital response to major incidents. Lessons learned during the last 20 years include the need for continuous updates to withstand the challenge of time.

Development and Implementation of a Zika Virus Disease Response Protocol at a Large Academic Medical Center.

Source
Disaster Medicine and Public Health Preparedness 2017 11 (2) 256-258

Author(s)
Rosa, R., and Abbo, L.M.,

Abstract
The rapid spread of Zika virus represents a threat to public health and demands significant preparation from hospitals and health care systems. Establishment of procedures for the identification of cases of Zika virus infection is a fundamental aspect of response planning. We describe the steps taken in the development and implementation of a protocol for the diagnosis and management of suspected cases of Zika virus infection in a large academic medical center.
Managing a Mass CO Poisoning: Critical Issues and Solutions From the Field to the Hyperbaric Chamber.

Source
Disaster Medicine and Public Health Preparedness 2017 11 (2) 251-255

Author(s)
Valerio, A., and Verzè, M..

Abstract
Carbon monoxide acute intoxication is a common cause of accidental poisoning in industrialized countries and sometimes it produces a real mass casualty incident. The incident described here occurred in a church in the province of Verona, when a group of people was exposed to carbon monoxide due to a heating system malfunction. Fifty-seven people went to the Emergency Department. The mean carboxyhemoglobin (COHb) level was 10.1±5.7% (range: 3-25%). The clinicians, after medical examination, decided to move 37 patients to hyperbaric chambers for hyperbaric oxygen (HBO) therapy. This is the first case report that highlights and analyses the logistic difficulties of managing a mass carbon monoxide poisoning in different health care settings, with a high influx of patients in an Emergency Department and a complex liaison between emergency services. This article shows how it is possible to manage a complex situation with good outcome.

Palliative care in humanitarian crises: always something to offer.

Source
Lancet 2017 389 (10078) 1498-1499

Author(s)

Abstract
More than 128.6 million people across 33 countries require life-saving humanitarian assistance, 92.8 million of whom are particularly vulnerable.1 Palliative care, however, has been omitted from efforts to tackle humanitarian crises.2 Palliative care is, according to WHO, "an approach that improves the quality of life of patients and their families facing the problems associated with life-threatening illness, through the prevention and relief of suffering".3 We propose holistic palliative care as an integral component of relief strategies.
Select Republic of Senegal Disaster Preparedness and Response Exercise: Lessons Learned and Progress Toward Key Goals.

Source
Disaster Medicine and Public Health Preparedness 2017 11 (2) 183-189

Author(s)
Hamer, M.J.M., and Jordan, J.J.,

Abstract
The Republic of Senegal Disaster Preparedness and Response Exercise was held from June 2-6, 2014, in Dakar, Senegal. The goal was to assist in familiarizing roles and responsibilities within 3 existing plans and to update the National Disaster Management Strategic Work Plan. There were 60 participants in the exercise, which was driven by a series of evolving disaster scenarios. During the separate Disaster Management Strategic Work Plan review, participants refined a list of projects, including specific tasks to provide a “road map” for completing each project, project timelines, and estimated resource requirements. Project staff administered a survey to conference participants. A total of 86% of respondents had improved knowledge of Senegal disaster plans as a result of the exercise. A total of 89% of respondents had a better understanding of their ministry’s role in disaster response, and 92% had a better understanding of the role of the military during a pandemic. Participants also generated ideas for disaster management system improvement in Senegal through a formal “gap analysis.” Participants were in strong agreement that the exercise helped them to better understand the contents of their disaster response plans, build relationships across ministerial lines, and effectively enhance future disaster response efforts.
EMERGENCY MEDICINE

See also

Prehospital transfer strategies and tranexamic acid during major trauma.
Under Trauma Medicine.
See also

Risk factors for diabetic retinopathy among homeless veterans. Under Veteran’s Health
A 2-Month Linear Periodized Resistance Exercise Training Improved Musculoskeletal Fitness and Specific Conditioning of Navy Cadets

Source
Journal of Strength and Conditioning Research 2017 31 (5) 1362-1370

Author(s)

Abstract
A 2-month linear periodized resistance exercise training improved musculoskeletal fitness and specific conditioning of navy cadets. J Strength Cond Res 31(5): 1362-1370, 2017-Major objectives of army and navy training are the development of readiness, performance, and injury prevention. Numerous studies have examined the effect of specific strength training (ST) programs on performance of Special Forces and military personnel. Although navy personnel have to address on-board conditions that require the development of strength, agility, speed, and task-specific endurance, there is no information regarding the effects of ST on navy-specific performance. Therefore, the purpose of this study was to investigate the effect of an 8-week ST on performance of navy cadets. Thirty-one cadets of the Hellenic Naval Academy volunteered to participate and were randomly assigned in 2 groups. Cadets in the Experimental Group participated in a linear periodized ST program in addition to their daily training schedule. Cadets in the control group participated only in pre- and post-measurements. Anthropometrics, maximal oxygen consumption, oxygen consumption during a Navy Obstacle Course (NOC), maximum strength in bench press and squat exercises, hand grip strength, repetitions in push-ups and abdominal test, time to complete a 30-m sprint, and time to complete NOC were measured before and after the intervention. A 2-way repeated-measures analysis of variance showed that ST induced favorable changes in bench press and squat 1 repetition maximum, push-ups, abdominal crunches, time to complete 30-m distance, and time to complete the NOC. These results indicate that an additional ST may induce positive alterations on readiness and performance of navy cadets. The study has the approval of university's institutional review board and ethical committee.
Misperceptions of Weight Status in Military Men and Women.

Source
Military Medicine 2017 182 (5) e1792-e1798

Author(s)
Clark,H.L., and Heileson,J.,

Abstract
Objective: Military members may be in a unique position to misperceive their weight status because of the expectations of military service-specific body composition standards and sex-specific ideals of body image. Two-thirds of military service members are overweight or obese, costing the Department of Defense over $1 billion/year. This study assessed accuracy of perceived weight status. Materials and Methods: A cross-sectional, descriptive study of active duty service members (n = 295). Participants were predominantly white (57%), Army (91%), male (71%), with a mean age of 30.1 ± 8.6 years. Thirty-six percent were normal body mass index (BMI) (22.7 ± 1.6 kg/m2) and 64% were overweight/obese BMI (29.3 ± 3.3 kg/m2). Subject BMI (m/kg2) was dichotomized as normal (18.5–24.9 kg/m2) or overweight (≥25 kg/m2); BMI status was contrasted to perceived weight. The study was approved by the Institutional Review Boards at Madigan and Brook Army Medical Centers. Inferential statistics between groups compared differences between accurate and inaccurate weight status perception. Binary logistic regression was performed to identify if significant independent variables contributed to predicting weight status accuracy. Data were analyzed using SPSS Predictive Analytic Software version 21 with statistical significance set at p < 0.05. Results: A higher education is associated with a 2.6 higher odds of accurately perceiving weight status. Trying to lose weight is associated with a 0.31 lower odds of accurate perception of weight status. Normal BMI: no men and 29% of women perceived they were overweight; 81% of normal weight women with inaccurate weight perceptions were attempting weight loss (p = 0.005). Overweight BMI: 66% of men and 63% of women were not dieting and 42% of men and 6% of women perceived being at the right weight (p < 0.001). Accurate weight perceivers: The majority of overweight/obese females (94%) and males (85%) with an accurate weight perception were trying to lose weight, compared to 30% of those who had inaccurate weight perceptions (p = 0.002 and p < 0.001, respectively). Conclusions: Weight misperception may result in underestimation of personal health risk associated with weight gain and may lead to undesirable weight-related outcomes. Aspects of the military culture, such as weight and body composition standards, as well as an emphasis on physical fitness, may influence weight perception in military members differently than that observed in civilian populations, and may influence military men and women differently. Incongruence between actual and perceived weight status and lifestyle behaviors reveals a need for tailored interventions and inclusion of public health campaigns.
HAEMATOLOGY

2017 104 025

Rare Case of Unilateral Phlegmasia Cerulea Dolens With Bilateral Deep Vein Thrombosis at a Community Military Hospital Emergency Department.

Source
Military Medicine 2017 182 (5) e1823-e1825
Author(s)
Lipe,D.N., and Cuthbert,D.,

Abstract
Phlegmasia cerulea dolens (PCD) is a rare entity that refers to a painful, edematous, and cyanotic limb due to a massive deep vein thrombosis (DVT). Due to its rarity, the exact incidence is unknown; however, it is vital that the military health care provider recognize it as the condition can be limb and life threatening. Due to the recent increase in combat-related operations, DVT has had a steady increase in the past 10 years in the military population, and as such has become a condition of special interest and surveillance in the armed forces. PCD is part of a spectrum that consists of distal DVT, more proximal DVT, phlegmasia alba dolens (PAD), and finally PCD with venous gangrene. PAD is an early stage of PCD, in which although there is a massive DVT present, the collateral and superficial circulation are not yet involved; this in turn results in a painful, edematous, white leg. PCD is preceded by PAD in approximately 50% to 60% of the cases. PCD has an amputation rate of up to 50% and a mortality rate of up to 40%. The patient will present with a swollen, cyanotic, painful leg that may or may not show signs of venous gangrene. In PCD, the collateral circulation is not spared and this causes severe congestion and fluid sequestration in the limb leading to venous hypertension. This can lead to circulatory shock and arterial insufficiency as it progresses. We review a case report of a 66-year-old woman that presented to small community army hospital after a 26-hour bus drive with knee pain and leg swelling. The diagnosis of PCD was made after Doppler ultrasonography showed bilateral iliofemoral, common, femoral, and saphenous veins thrombosis. The patient's left lower extremity was discolored, tender, and swollen, although it had not progressed to venous gangrene or dermal necrosis. While the management of PCD is not standardized due to the rarity of the condition, several options are available. These options include anticoagulation, minimally invasive procedures such as catheter-directed thrombolysis, or more invasive procedures such as surgical thrombectomy. In the active duty military population, clot reduction techniques would be preferred to long-standing anticoagulation, as the morbidity is greater with anticoagulation alone as well as the probability of major hemorrhage. Besides pulmonary embolism, which is a complication in up to 30% of the patients with PCD, one must keep in mind the extent and duration of the thrombus when choosing a treatment method, as these factors are directly related to the morbidity associated with post-thrombotic syndrome. Functional impairment after a massive DVT or PCD is an important factor that must be kept in mind for troop readiness.
PRACTITIONER APPLICATION: Fix These First: How the World's Leading Companies Point the Way Toward High Reliability in the Military Health System

Source
Journal of Healthcare Management 2017 62 (3) 208-210

Author(s)
Harding, A.D.

Abstract
HISTORY OF MEDICINE

2017 104 027

Medicine at war a century ago

Source
British Journal of Hospital Medicine (17508460) 2017 78 (5) 291-291
Author(s)
Ellis, H.

Abstract
The author reflects on wartime medical services, health conditions, and treatment practices in 1917 based on research reports published in the 1917 issue of "British Medical Journal.".
Prevalence of Hepatitis B surface antigen and its associated factors in Senegalese military personnel sent on mission to Darfur.

Source
Author(s)

Abstract
Introduction: in Senegal, 85% of the adult population have been exposed to the hepatitis B virus and about 11% of them are chronic surface antigen (HBsAg) carriers. This infection is poorly documented among Senegalese Armed Forces. The aim of this study was to assess the prevalence of HBsAg in Senegalese military personnel on mission to Darfur (Sudan) and to identify its associated factors. Methods: we conducted a cross-sectional study among Senegalese military personnel stationed in Darfur from 1 July 2014 to 31 July 2014. HBsAg test was performed on serum of participants using immunochromatographic method. The search for associated factors was carried out using multivariate logistic regression. Results: our study included 169 male military personnel. The average age was 36.6 +/- 9.5 years. A history of familial chronic liver disease, blood exposure and sexual exposure were found in 12.4%, 24.9% and 45.6% of the study population respectively. HBsAg was found in 24 participants [14.2% (CI 95% = 8.9-19.5)]. After adjusting for potential confounding factors, age (OR = 0.9 CI 95% = 0.9-1.0), university level (OR = 9.5 CI 95% = 1.3 - 67, 1>) and sexual exposure (OR = 3.3 <; CI 95% = 1.0 - 10.3) were independently associated with hepatitis B. Conclusion: our study shows high prevalence of HBsAg and underlines the need for further evaluation of hepatitis B in this population.
Prevalence of *neisseria meningitidis* carriage with identification of serogroups and genogroups in professional soldiers.

**Source**
Advances in Experimental Medicine and Biology 2017 955 ( ) 29-37

**Author(s)**

**Abstract**
The article presents the prevalence of *Neisseria meningitidis* carriage with the identification of sero- and genogroups in professional soldiers serving in the Polish Armed Forces. A total of 1246 soldiers from the 10th Armored Cavalry Brigade in Swietoszow, Poland were examined in the period January-February 2016. Microbiological tests were performed using standard methods (culture, incubation, microscopy, biochemical, and automated identification with VITEK cards). *Neisseria meningitidis* isolates from carriers were subjected to a slide agglutination test for the identification of serogroups, next bacterial DNA was isolated and genogroups were identified based on the results of PCR. Of the 1246 soldiers tested, 65 were found to be carriers of *N. meningitidis*. Serogroups of 36 isolates and genogroups of 56 meningococcal isolates were determined. The genogrouping identified the isolates as belonging to group B (n = 34; 52.3 %), E29 (n = 8; 12.3 %), C (n = 6; 9.2 %), Y (n = 6; 9.2 %), and W (n = 2; 3.1 %). The primers which were used did not make it possible to determine the genogroup of nine isolates. In conclusion, the overall carrier rate of *N. meningitidis* amounted to 5.2 %, with the serogroup B being predominant, which is similar to that reported in the general population in Poland and Central Europe.

Research needed to prevent MERS coronavirus outbreaks.

**Source**
Lancet 2017 389 (10078) 1502-1502

**Author(s)**
Devi, S.,

**Abstract**
After a recent outbreak of MERS coronavirus was contained in Saudi Arabia, WHO calls for more research for a better control of the disease. Sharmila Devi reports.
Role of the IL-33-ST2 axis in sepsis.

Source
Military Medical Research 2017

Author(s)
Heth R. Turnquist, H.X., and Hoffman, R.,

Abstract
Sepsis remains a major clinical problem with high morbidity and mortality. As new inflammatory mediators are characterized, it is important to understand their roles in sepsis. Interleukin 33 (IL-33) is a recently described member of the IL-1 family that is widely expressed in cells of barrier tissues. Upon tissue damage, IL-33 is released as an alarmin and activates various types of cells of both the innate and adaptive immune system through binding to the ST2/IL-1 receptor accessory protein complex. IL-33 has apparent pleiotropic functions in many disease models, with its actions strongly shaped by the local microenvironment. Recent studies have established a role for the IL-33-ST2 axis in the initiation and perpetuation of inflammation during endotoxemia, but its roles in sepsis appear to be organism and model dependent. In this review, we focus on the recent advances in understanding the role of the IL-33/ST2 axis in sepsis.

Staff Surgeon Utilization Pattern at Combined Military Hospital Lahore.

Source
Pakistan Armed Forces Medical Journal 2017 67 (2) 332-337

Author(s)
Ch Qamar Ul Haq Noor, and Nausheen, B.,

Abstract
Objective: The study was conducted to highlight the sickness absenteeism pattern among the doctors and nurses of Combined Military Hospital, Lahore in the year 2014. Study Design: Cross sectional descriptive study. Place and Duration of Study: Combined Military Hospital (CMH) Lahore, 1 year from Jan 2014 to Dec 2014. Patients and Methods: Sick-in-Quarter (SIQ) reports of doctors and nurses were collected from the SIQ register of Combined Military Hospital, Lahore for the duration of 1 year. This data was categorized based on gender, rank, causes and duration of illness. Frequencies of Sickness absenteeism of the health care providers based on these categories were noted and analyzed through SPSS 20. Results: A total of 670 SIQ’s were issued to health care professionals at CMH Lahore in 2014. Of these, 164 (24.5%) were issued to males and 506 (75.5%) were issued to females. Out of these 316 (47.2%) were doctors and 354 (52.8%) were nurses (p<0.001). Maximum absenteeism was caused by respiratory diseases 176 (26.28%). Monday showed the highest predominance of sick reports with 166 (24.8%). Most SIQ’s were issued in April 90 (13.4%) while a low number of SIQs were issued in February 20 (3%). Conclusion: Sickness absenteeism was highly prevalent, and was higher among nurses than doctors. Respiratory diseases were the leading cause of sickness absenteeism among the doctors and
nurses. Measures are needed to sustain the health of doctors and nurses to improve the overall patient care.

2017 104 033


Source
Military Surveillance Monthly Report 24 (4) pp19-21

Author(s)
Williams, V., Stahlman, S., and McNellis, M.,

Abstract
Tinea pedis, also known as athlete’s foot, is a chronic fungal infection of the feet and toes and is the most common dermatophyte infection among adults. Up to 25% of the global population is affected by tinea pedis at any given time.1-3 Athlete’s foot is also a common problem among military service members. Recent studies among non-U.S. military personnel reported high infection rates, costs of morbidity, and the potential reduction in service members’ performance resulting from this infection.4

2017 104 034


Source

Author(s)
Stahlman, S., and Williams, V., Oetting, A.,

Abstract
During 2007–2016, there were 237 incident diagnoses of acute hepatitis A, with an overall incidence rate of 1.88 cases per 100,000 person-years (p-yrs). Crude overall rates of hepatitis A were highest among service members in the youngest age group, those in healthcare occupations, and among Air Force and Navy members. Service members of “other” or unknown race/ethnicity and non-Hispanic black service members had higher overall incidence rates of hepatitis A, compared to their non-Hispanic white and Hispanic counterparts. Annual incidence rates of hepatitis A were relatively stable until 2012 when rates peaked at 2.94 per 100,000. Rates dipped to 1.41 per 100,000 p-yrs in 2015 and then increased to 2.22 per 100,000 p-yrs in 2016. During the 10-year period, annual rates among male service members were relatively stable. The low rates of acute hepatitis A among U.S. service members overall reflect the widespread use of the hepatitis A virus vaccine.

Source
Military Surveillance Monthly Report 24 (4) pp 6-11

Author(s)
Stahlman, S., and Williams, V., Oetting, A.,

Abstract
During 2007–2016, there were 1,258 and 1,259 incident diagnoses of acute and chronic hepatitis B virus (HBV) infection, respectively. The overall incidence rates of diagnoses of acute and chronic hepatitis B were both 10.0 per 100,000 person-years (p-yrs). Overall crude incidence rates of acute hepatitis B were highest among females, Navy members, Asian/Pacific Islander and non-Hispanic black service members, those in healthcare occupations, recruits, and service members with no history of deployment. Overall incidence rates of chronic hepatitis B were highest among service members who were female; in the Navy or the Army; in healthcare occupations; and of non-recruit status. Asian/Pacific Islander service members, those of other/unknown race/ethnicity, and non-Hispanic black service members had overall rates of chronic hepatitis B that were more than 41, 11, and 10 times that of non-Hispanic white service members, respectively. Crude annual incidence rates of acute hepatitis B fluctuated between 7.7 per 100,000 p-yrs and 13.2 per 100,000 p-yrs during the surveillance period. Approximately one of 10 acute cases and close to one of five chronic cases had at least one HBV-related hospitalization. Rates of hospitalized cases of acute hepatitis B decreased over the 10-year period.

Viral Hepatitis C, U.S. Military Service Members and Beneficiaries, 2008–2016

Source
Military Surveillance Monthly Report 24 (4) pp 12-17

Author(s)
Stahlman, S., and Williams, V., Oetting, A.,

Abstract
Hepatitis C virus (HCV) infection remains an important concern for the Military Health System (MHS). This report updates numbers and incidence rates of HCV infection of U.S. military service members and MHS beneficiaries, incorporating a surveillance period before and after 2012 screening policy changes for military members. From 2008 to 2016, there were 342 and 1,491 incident cases of acute and chronic hepatitis C, respectively, among active component members of the U.S. Armed Forces; crude overall incidence rates during the period were 2.8 (acute) and 12.2 (chronic) cases per 100,000 person-years. Annual incidence rates of chronic hepatitis C decreased over the surveillance period; however, rates of acute hepatitis C remained steady. There were 141 acute and 587 chronic incident cases among reserve/guard service members, with annual counts of both acute and chronic cases decreasing over the surveillance period. In addition, there were 2,541 acute
and 21,418 chronic cases among non-service member beneficiaries, with annual counts of acute and chronic cases also decreasing steadily over the surveillance period. Given recent pharmaceutical advances in treatment, screening and linkage to care are critical to improving health outcomes for those with HCV infection.

2017 104 037

Zika in Africa—the invisible epidemic?.

Source
Lancet 2017 389 (10079) 1595-1556

Author(s)
Nutt, C., and Adams, P.,

Abstract
In April of 2016, reports were streaming in of Zika cases across the Americas: Panama, Martinique, Chile, and Peru. Just as officials had predicted, the epidemic was spreading fast. Each report reinforced the conventional wisdom that Zika was primarily a threat to the western hemisphere and that, so far, mainland Africa had been spared its pernicious effects.

2017 104 038

Zero Health Worker Infection: Experiences From the China Ebola Treatment Unit During the Ebola Epidemic in Liberia.

Source
Disaster Medicine and Public Health Preparedness 2017 11 (2) 262-266

Author(s)
Liu, L., and Yin, H.,

Abstract
In November 2014, a total of 164 health care workers were dispatched by the Chinese government as the first medical assistance team to Liberia. The tasks of this team were to establish a China Ebola treatment unit (ETU), to commence the initial admission and treatment of suspected and confirmed Ebola patients, and to provide public health and infection control training for relevant local personnel. Overall, during the 2-month stay of this first medical assistance team in Liberia, 112 Ebola-suspected patients presented to the ETU, 65 patients were admitted, including 5 confirmed cases, and 3 confirmed cases were cured. Furthermore, 1520 local people were trained, including health care workers, military health care workers, staff members employed by the ETU, and community residents. Most importantly, as the first Chinese medical assistance team deployed to Liberia fighting the Ebola virus on the frontline, not a single member of this team or the hired local staff were infected by Ebola virus. This highly successful outcome was due to the meticulous infection control initiatives developed by the team, thereby making a significant contribution to China’s ETU “zero infection” of health workers in Liberia. The major infection control initiatives conducted in the China ETU that contributed to achieving “zero infection” of all health workers in the ETU are introduced in this report.
Zika Virus Update: More on an Emerging Arboviral Disease in the Western Hemisphere.

Source
Disaster Medicine and Public Health Preparedness 2017 11 (2) 163-167

Author(s)
Vest, K.G.,

Abstract
Zika virus has captivated the world with its quick spread throughout the Western Hemisphere. Increased emphasis has been placed on the infection of pregnant women and subsequent adverse and severe effects in the developing fetus and newborn. This article supplements a previous article and provides updated information on new and evolving evidence that strengthens the association between Zika virus and unique congenital and neurologic diseases, updates what is known about the epidemiology of the disease, and provides new and updated material for primary care providers as they counsel patients who may be exposed or infected. With the extent of disease spread, it is expected that Zika virus will become endemic to the Western Hemisphere and will change the public health parameters and approach in this area of the world.

See also


Innovation and Integration in Curriculum Reform: Lessons From Bench to Bedside and Beyond at the Uniformed Services University.

Source
Military Medicine 2017 182 (5) 1587-1589
Author(s)
Stephens,M.B., and Bausch,S.B.,

Abstract
At the most fundamental level, medical school curricula reflect how individual institutions integrate the relationship between basic and clinical sciences.1 Courses, modules, and other educational experiences are designed to enable students to learn the practice of medicine iteratively from novice to expert and join the practice of medicine.2,3 How schools incorporate basic science, clinical science, and health system practice directly influences the professional identity and clinical competence of developing physicians.

Physical examination: The dying art.

Source
Medical Journal Armed Forces India 2017 73 (2) 110-111
Author(s)
Puri,B., and Raman,S.,

Abstract
“He who studies medicine without books sails an uncharted sea, but he who studies medicine without patients does not go to sea at all.” – Sir William Osler.
Teaching Professional Development to Orthopaedic Residents.

Source
Military Medicine 2017 182 (5) e1799-e1802

Author(s)
Shirley,E.D., and Balsamo,L.,

Abstract
Background: The traditional focus of residency training programs has been on the development of clinical and surgical skills. The expectation has been that nonclinical skills, including professional development, will be learned in an informal manner rather than through formal teaching. Methods: After recognizing the absence of formal teaching on professional development in the residency curriculum, we developed a symposium to specifically address this omission. Topics included applying for fellowships, military promotions, overseas assignments, moonlighting, board certification, time management, lifelong orthopaedic learning, and finding a job after the military. Residents were surveyed before and after the symposium to determine the overall usefulness and value of the individual topics. Results: All participating residents reported that they would recommend the symposium to other residents. The course received a mean overall rating of 4.64 (range, 4–5) on a scale from 1 (poor) to 5 points (excellent). High ratings were received for course usefulness, content, and relevance to future practice. Conclusions: A formal professional development program to address topics that are relevant to practice and learning should be integrated into an orthopaedic surgery residency curriculum.
MENTAL HEALTH

2017 104 043

Graphic novels: A new stress mitigation tool for military training: Developing content for hard-to-reach audiences

Source
Health Communication 2017 32 (5) 541-549

Author(s)

Abstract
This article describes the development of two graphic novels as a new approach to mental health communication and coping strategies for the Navy and Marine Corps. The novels are intended to capture the attention of the younger target audience and provide vital teaching messages to better prepare personnel for deployment to combat zones. The novels were developed based on embedding the principles of combat and operational stress control (COSC) into realistic and relatable characters, stories, and images. Approaches used for development included (a) basing storylines on real-life service members and the situations they face in combat and their personal lives; (b) partnering with COSC experts to embed teaching points; (c) ensuring technical accuracy through research and target audience reviews of the storyboard and artwork; (d) developing characters that are representative of the target audience, with varied jobs, ages, backgrounds, and professional concerns; and (e) designing artwork in a manner sensitive to training objectives and the psychological effects on readers. Because technical accuracy, realism, and sensitivity were noted as essential components of an effective graphic novel tool, focus-group research and review of author drafts by the target audience and technical experts are strongly recommended.

2017 104 044

How the potential benefits of active combat events may partially offset their costs

Source
International Journal of Stress Management 2017 24 (2) 156-172

Author(s)

Abstract
The present research examined how particular types of combat exposure may be associated not only with increased mental health symptoms but also with perceived benefits that are associated with decreased mental health symptoms. Using a longitudinal sample of military personnel who had returned from combat in Iraq or Afghanistan, active combat experiences (such as shooting or directing fire at the enemy) were related to higher levels of perceived benefits following the deployment, whereas passive experiences (such as being the recipient of an attack or witnessing destruction) were not.
Perceived benefits 3 months postdeployment were associated with lower posttraumatic stress disorder (PTSD) symptoms 3 months later. A mediational analysis revealed that although active combat experiences were associated with greater PTSD symptoms, a portion of this relationship was reduced as a result of the association between active combat experiences and benefit finding. Discussion focuses on additional research needed on the role of benefit finding in postcombat adjustment, and how employees may derive benefits from their work that predict future mental health symptoms.

2017 104 045

Resource loss and gain following military reserve duty in Israel: An assessment of conservation of resources (COR) theory

Source
International Journal of Stress Management 2017 24 (2) 135-155
Author(s)
Goldfarb, R. and Ben-Zur, H.

Abstract
According to Israeli law, citizens aged 20–40 are obligated to fulfill military reserve duty in the Israeli Defense Forces (IDF). Guided by the theory of conservation of resources (COR; Hobfoll, 2001), this study examined the association of resource loss and gain (economic, time, familial, work, and personal resources) with level of reserve combat soldiers’ distress and satisfaction with their service following the termination of their reserve duty. The sample consisted of 139 male Israeli citizens, ages 23–40, serving as reserve soldiers in the IDF. Using an Internet-based questionnaire, prior to the start of their reserve duty (Time 1), the respondents completed questionnaires assessing psychological traits, social support, and psychological distress. Following the reserve service period (Time 2), the respondents completed a short inventory of resource loss and gain related to the service, and assessments of psychological distress and satisfaction with the service. The main results showed that resource loss was higher on average than resource gain and was associated positively with distress and negatively with satisfaction with the service, whereas resource gain was positively associated with satisfaction only. The findings are compatible with COR theory and point to areas in which reserve soldiers could be assisted in fulfilling the task of maintaining national security while simultaneously preserving personal well-being.
Violent behavior among military reservists

Source
Aggressive Behavior 2017 43 (3) 273-280

Author(s)
Kwan,J., Jones,M., et al.

Abstract
Large numbers of British and American Reservists have been deployed to operations in Iraq and Afghanistan. Little is known about the impact of deployment and combat exposure on violent behavior in Reservists. The purpose of this study was to determine the prevalence of self-reported violent behavior among a representative sample of United Kingdom Reservists, the risk factors associated with violence and the impact of deployment and combat exposure on violence. This study used data from a large cohort study of randomly selected UK military personnel and included Reservists who were in service at the time of sampling (n = 1710). Data were collected by questionnaires that asked about socio-demographic and military characteristics, pre-enlistment antisocial behavior, deployment experiences, post-deployment mental health, and self-reported interpersonal violent behavior. The prevalence of violence among Reservists was 3.5%. Deployment was found to be a risk factor for violent behavior even after adjustment for confounders. The association with violence was similar for those deployed in either a combat role or non-combat role. Violence was also strongly associated with mental health risk factors (PTSD, common mental disorders, and alcohol misuse). This study demonstrated higher levels of self-reported post-deployment violence in UK Reservists who had served in either Iraq or Afghanistan. Deployment, irrespective of the role was associated with higher levels of violent behavior among Reservists. The results also emphasize the risk of violent behavior associated with post-deployment mental health problems.

See also

Developing a peer support protocol for improving veterans’ engagement to computer-delivered cognitive behavioural therapy. Under Technology & Research.

Sexual Assault Victimization and Mental Health Treatment, Suicide Attempts, and Career Outcomes Among Women in the US Army. Under Sexual Trauma.

Soldier background and postinvestigative events associated with timing of suicide following deployment of U.S. Army National Guard soldiers. Under Psychiatry.
Adenovirus-Associated Acute Appendicitis: An Under-Recognized Relationship?

Source
Military Medicine 2017 182 (5) e1765-e1768

Author(s)
Lynch, D.T., and Lott, L.,.

Abstract
Objective: Acute appendicitis (AA) is one of the most common causes of a surgical abdomen worldwide, occurring most frequently in those age 10 to 29 years. Adenovirus (ADV) is a rare but reported cause of AA in children and a well-recognized cause of intussusception in infants and young children. Annually, about 36,000 basic military trainees (BMTs) undergo initial training at Joint Base San Antonio Lackland, Texas. Before reintroduction of the ADV 4/7 vaccine in November 2011, one-third of BMTs developed an adenoviral upper respiratory tract infection (URI) during the 8.5 weeks of training. We hypothesized that ADV may be a common cause of AA in the BMT population given their young age and high incidence of adenoviral URIs. The objective of this study was to determine the frequency with which ADV, cytomegalovirus (CMV), Epstein–Barr virus (EBV), and enterovirus were associated with AA in a population of young adults.

Materials and Methods: This study was a retrospective review of patient charts and existing pathological tissue specimens of all BMTs who underwent appendectomy at the Wilford Hall Medical Center from January 1, 2003, to August 31, 2011. Pathological tissue samples from 112 BMTs were assayed by quantitative polymerase chain reaction (qPCR) and immunohistochemistry (IHC) for viral targets. Results: ADV DNA was detected in 16 of 112 samples (14%) via qPCR: ADV 4 in 13 cases, ADV B14 in 1 case, and nontypable ADV in 2 cases. IHC was positive in only the ADV B14 case (0.9%). All cases were negative for CMV, EBV, and enterovirus. Conclusion: By using qPCR, this study demonstrated an association between ADV and AA higher than has been previously reported: ADV was detected in 14% of AA cases in this series versus in only 0.23% of AA cases in previous studies (p < 0.01). There was no evidence of CMV, EBV, or enterovirus association with AA in this study. Comparison of qPCR to IHC shows that histologic analysis may overlook evidence of ADV in appendiceal tissue: qPCR is significantly more sensitive than light microscopy and IHC for detecting ADV in this setting. Because ADV 4 was detected in 81% of those with positive qPCR, the recently licensed live oral ADV vaccine might be useful for primary prevention against AA. Prospective studies evaluating young adults presenting with AA for evidence of infection with ADV are needed to determine if a causal relationship exists.
Microbiological screenings for infection control in unaccompanied minor refugees: The German Armed Forces Medical Service’s experience.

Source
Author(s)

Abstract
Background: The German Military Medical Service contributed to the medical screening of unaccompanied minor refugees (UMRs) coming to Germany in 2014 and 2015. In this study, a broad range of diagnostic procedures was applied to identify microorganisms with clinical or public health significance. Previously, those tests had only been used to screen soldiers returning from tropical deployments. This instance is the first time the approach has been studied in a humanitarian context. Methods: The offered screenings included blood cell counts, hepatitis B serology and microscopy of the stool to look for protozoa and worm eggs as well as PCR from stool samples targeting pathogenic bacteria, protozoa and helminths. If individuals refused certain assessments, their decision to do so was accepted. A total of 219 apparently healthy male UMRs coming from Afghanistan, Egypt, Somalia, Eritrea, Syria, Ghana, Guinea, Iran, Algeria, Iraq, Benin, Gambia, Libya, Morocco, Pakistan, and Palestine were assessed. All UMRs who were examined at the study department were included in the assessment. Results: We detected decreasing frequencies of pathogens that included diarrhoea-associated bacteria [Campylobacter (C.) jejuni, enteropathogenic Escherichia (E.) coli (EPEC), enterotoxic E. coli (ETEC), enteroaggregative E. coli (EAEC), enteroinvasive E. coli (EIEC)/Shigella spp.), Giardia (G.) duodenalis, helminths (comprising Schistosoma spp., Hymenolepis (H.) nana, Strongyloides (S.) stercoralis] as well as hepatitis B virus. Pathogenic microorganisms dominated the samples by far. While G. duodenalis was detected in 11.4% of the assessed UMRs, the incidence of newly identified cases in the German population was 4.5 cases per 100,000 inhabitants. Conclusions: We conclude that the applied in-house PCR screening systems, which have proven to be useful for screening military returnees from tropical deployments, can also be used for health assessment of immigrants from the respective sites. Apparently healthy UMRs may be enterically colonized with a broad variety of pathogenic and apathogenic microorganisms. Increased colonization rates, as shown for G. duodenalis, can pose a hygiene problem in centralized homes for asylum seekers.

See also
Prevalence of neisseria meningitidis carriage with identification of serogroups and genogroups in professional soldiers. Under Infectious and Communicable Diseases.
The Association of Deployment-Related Mental Health, Community Support, and Spouse Stress in Military Couples.

**Source**
Military Behavioral Health 2017 5 (2) 109-116

**Author(s)**
Donoho, C.J., and Riviere, L.A.,

**Abstract**
Although the Army community can be a source of support, military families experience stressful changes given the unpredictable nature of military life. The present study used data from 124 service member–spouse dyads to examine how service member symptoms of anxiety, depression, and posttraumatic stress are associated with perceived stress in military spouses, taking into account the role of Army integration and community support. Symptoms of anxiety and posttraumatic stress were not associated with perceived stress in the spouse; rather, higher symptoms of depression in the service member were associated with greater levels of stress in the spouse.

Caring for military families: Understanding their unique stressors

**Source**
Nurse Practitioner 2017 42 (5) 26-32

**Author(s)**
Owen, R. and Combs, T.

**Abstract**
Military families are often faced with unique stressors that civilian families do not have to deal with, such as deployment, geographic separation, and frequent relocation. When an NP is providing care for a military family, it is important that these unique stressors are discussed and understood. NPs can employ the Causal Uncertainty Model to encourage effortful cognition and support family attributes to ameliorate the negative effects of the stressors these families may face.
Comparing Strategies to Help Spouses of Service Members Cope with Deployment.

Source
Military Behavioral Health 2017 5 (2) 137-146
Author(s)
O. Nichols, L., and Martindale-Adams, J.,

Abstract
This study compared 2 interventions to help military spouses adapt to change during deployment. Participants were randomized into telephone support groups and education webinars. Both interventions provided information on deployment, coping strategies, and resources. Webinar participants showed significantly more improvement than support participants for anxiety; participants in both arms improved significantly in resilience, depression, anxiety, and coping. Participants attributed benefit to support from others and the military; improved self-efficacy including learning coping skills, decreasing stress, and accessing resources; and sharing learning by helping others and the service member. Findings suggest that multiple avenues can help military spouses cope with deployment.

An Evaluation of the Use of Educational Resource Guides for Military Students in Public Schools.

Source
Military Behavioral Health 2017 5 (2) 172-177
Author(s)
Castillo, B., and Capp, G.,

Abstract
Most public school staff are unaware of the presence of military-connected students in their schools. The Building Capacity Consortium aimed to increase awareness of military-connected students and meet their needs in schools. The Consortium developed a series of guidebooks to share evidence-based and homegrown strategies to support military-connected students and their families. Educational guidebooks are frequently used for training, but few are evaluated for their usefulness. This evaluation included a survey of 649 recipients of resource guides and presents their feedback. Results indicate that the resource guides were well received. Recommendations for further dissemination of these guides are discussed.
Identifying Policy Implications and Future Research Directions Regarding Military Community Support and Child Psychosocial Adjustment.

Source
Military Medicine 2017 182 (5) 1572-1580

Author(s)
Conforte, A.M., and DeLeon, P.H.,

Abstract
Introduction: As former U.S. Army Surgeon General Horoho points out, a large fraction of what determines the health and readiness of our military families does not occur during appointments with professionals, but rather within the “Lifespace—where health really happens….” Indeed, when children of military families experience psychosocial difficulties, such stress impacts the service members’ personal well-being and ability to focus at work, impairing their capacity to attend to the mission. As such, the Department of Defense (DoD) has instituted a family readiness system to bolster resiliency within military families, including children, e.g., by linking families with support networks. Bolstering military family resiliency, including the prevention of and effective intervention for child psychosocial problems, is an important issue at all levels of the DoD. Service members, leaders, and policy makers have a vested interest in promoting mission readiness and a healthy force. Research can play an important role in shaping decision-making by consolidating what is currently known and not known about a particular expertise area. To date, there has been no consolidation of research regarding outcomes associated with military community support and the programs that currently exist to bolster child and family resiliency. Given the importance of military families to mission readiness, a review of the relevant research is warranted. Methods: This commentary article reviews the literature on community support for military children, provides an overview of currently available resources, discusses concerns with the current provision of support services to military families, and offers recommendations for future research, policy, and implementation of military community support programs. Conclusion: Although there is a dearth of research on available support programs, there appears to be no lack of services available to military families. However, several steps could be taken to make these resources into a more supportive system. Family members must be able to identify what support services exist, distinguish which service is most suitable for their needs, and be able to readily access these services in a resource-conserving manner. Considerable overlap in support services seems to suggest limited coordination between organizations and service providers, particularly in regard to the government/civilian interface, which inherently lies outside of DoD control. This overlap suggests a redundancy, which may not be efficient economically or in regard to accessing support. There also may be some confusion over which support service is most suitable for the consumer’s need. Although some overlap is useful, such as the provision of different services to different populations (e.g., having separate programs for the Army, Navy, Air Force, and Marine subcultures), limited organization and parsimonious provision of services makes it particularly difficult for spouses and family members to navigate resources. Initial attempts are being made to organize and
consolidate resources in both the government and civilian sectors. However, it is clear that these initiatives have not completely solved problems related to resource access, redundancy, and lack of research-supported efficacy.

2017 104 054

Increased Risk of Chronic Multisymptom Illness in Spouses of Gulf War Era Veterans.

Source
Military Medicine 2017 182 (5) e1648-e1656
Author(s)
Blanchard,M., and Toomey,R.,

Abstract
Objective: In 1995, the Centers for Disease Control and Prevention defined chronic multisymptom illness (CMI), a symptom complex in deployed veterans (DVs) of the 1991 Gulf War 1. The specific aim of this work is to determine the prevalence of CMI in spouses of DV and nondeployed veterans (NDVs) and whether veteran CMI is associated with spouse CMI, and to describe the physical and psychological profile of spouses with CMI. Materials and Methods: To determine whether veteran CMI was associated with CMI in their spouses, we used retrospective data from the “National Health Survey of Gulf War Veterans and Their Families.” Cross-sectional data were collected from spouses of veterans enrolled in the study, including those of 482 DVs and 532 NDVs who participated in an in-person examination between 1999 and 2001. In addition to a physical examination, this study evaluated health-related quality of life (Medical Outcomes Study Short-Form 36, SF-36), psychological symptoms, and post-traumatic stress disorder (PTSD) status, and measured a variety of common laboratory tests. Statistical analyses included Fisher's Exact Test (or Mantel–Haenszel $\chi^2$ test for linear trend) as well as odds ratios (ODs) and 95% confidence intervals (CIs) for categorical data. For continuous outcomes, two-sample $t$-tests were used to compare mean responses among spouses of DV and NDV with and without CMI, and between spouses of DV and NDV with CMI only. Logistic or linear regression models were developed for multiple-covariate analysis to assess if any of the associations we found in the unadjusted analyses would change. The project was approved by the Hines Cooperative Studies Program Human Rights Committee, the Institutional Review Boards at each participating site, and the Brockton VAMC. Results: The prevalence of CMI in spouses was 19.5% (DV) and 17.3% (NDV) (odds ratio [OR]: 1.16; 95% confidence interval [CI]: 0.84, 1.59). Spouses were more likely to have CMI if their veteran partner had CMI (OR: 1.49; 95% CI: 1.01, 2.19) or PTSD (OR: 1.84; 95% CI: 1.01, 3.37). Deployment was not a predictor of CMI. Spouses with CMI reported poorer SF-36 physical and mental component scores; worse symptoms of depression, anxiety, and post-traumatic stress; and a higher percentage had probable PTSD, more nonroutine clinic visits, more hospitalization, more prescription medications, and more psychotropic medication use compared with spouses without CMI regardless of the deployment status of their veteran spouses. Conclusion: Spouses of veterans with CMI report worse physical and mental functioning than spouses of veterans without CMI, regardless of the veteran's deployment status. Strengths of the study include that all participants were selected independently of veteran medical or psychiatric...
illness, and all underwent comprehensive health assessments. Weaknesses of the study include that data were not collected blindly, and that we made minor modifications of the Centers for Disease Control and Prevention diagnosis, such as defining fatigue and musculoskeletal pain more restrictively. The impact of veteran CMI on their spouse's health is likely to be significant in terms of medical cost and morbidity. Efforts to reduce the impact of CMI in the future should include identifying soldiers who are more vulnerable, such as those with prior GWI or PTSD.

2017 104 055

Introduction to Special Section on Military Spouses and the Social Context.

Source
Military Behavioral Health 2017 5 (2) 107-108
Author(s)
Adler. Amy B, and Riviere. Lyndon. A.

Abstract
Military spouses are an essential part of the military community, and the military community is shaped by their presence. Indeed, the connections created by military spouses define much of that military community. At the core of these connections is the relationship between military spouses and their military partners. Beyond the ties of family, there are social connections with other military families. These relationships have the potential to support service members and their families as they respond to the challenges and opportunities of military life.

2017 104 056


Source
Military Behavioral Health 2017 5 (2) 129-136
Author(s)
Crouch,C.L., and Adrian,A.L.,

Abstract
Living abroad provides both stressors and opportunities for the accompanying spouse. The present study on military spouses examined the relationship between social connectedness and attitudes toward the military as well as their health. Survey data were collected with 115 military spouses in 2 U.S. Army installations in Europe. Linear regressions indicated that greater social connectedness was significantly associated with higher rates of marital satisfaction, lower psychological distress, and fewer physical health symptoms. Results highlight the importance of social connectedness beyond just having community resources available in supporting the adjustment of spouses accompanying soldiers on overseas assignments.
School Staff Perceptions of Military-Connected Students in Civilian Public Schools: Implications for Teachers, Counselors, and School Staff.

Source
Military Behavioral Health 2017 5 (2) 147-156

Author(s)
Capp,G., and Astor,R.A.,..

Abstract
Nearly all public school districts serve some of the 4 million military-connected students in the United States. Little is known about the perceptions of school staff and their understanding of the challenges facing these students in their schools. Results from 4,616 California school staff in 2011 and 2013 indicate that many believe in their capacity to respond to the needs of these students. However, in many cases, they do not know whether particular challenges or assets exist. These results emphasize the importance of efforts to highlight the needs of this population and that school staff are integral sources of support.

Worried, concerned and untroubled: antecedents and consequences of youth worry

Source
Child & Family Social Work 2017 22 (2) 801-812

Author(s)
O'Neal,C.W., Mallette,J.K., et al.

Abstract
Using a pattern-based approach, worry was explored in relation to military youths' developmental and contextual characteristics, and pivotal outcomes (depressive symptoms, self-efficacy, well-being, coping styles, academic performance and deployment adjustment). Data were collected from parents and adolescents, age 11 to 18, living in the USA (n = 273 families). Variations in individual characteristics (age and gender), military family factors (rank, recent deployment, parents' resilient coping abilities) and family relational characteristics (parents' marital status, warm parenting, marital quality) were related to heterogeneous worry typologies. Depressive symptoms, self-efficacy and well-being, varied across the worry typologies. Implications are drawn from these findings for identifying potential interventions that can be accessed to modify these worry patterns and limit their harmful effects.
See also

Examining Associations Between Relocation, Continuity of Care, and Patient Satisfaction in Military Spouses. Under Primary Care.


Source
Medical Surveillance Monthly Report 2017 24 (4) 2-8
Author(s)
N.K.

Abstract
Perceptions of the relative “importance” of various health conditions in military populations often determine the natures, extents, and priorities for resources applied to primary, secondary, and tertiary prevention activities. However, these perceptions are inherently subjective and may not reflect objective measures of the relationship between the conditions and their impacts on health, fitness, military operational effectiveness, healthcare costs, and so on. Several classification systems and morbidity measures have been developed to quantify the “public health burdens” that are attributable to various illnesses and injuries in defined populations and settings. Not surprisingly, different classification systems and morbidity measures lead to different rankings of illness- and injury-specific public health burdens. For example, in a given population and setting, the illnesses and injuries that account for the most hospitalizations are likely different from those that account for the most outpatient medical encounters, and the illnesses and injuries that account for the most medical encounters overall may differ from those that affect the most individuals, have the most debilitating or long-lasting effects, and so on. Thus, in a given population and setting, the classification system or measure used to quantify condition-specific morbidity burdens determines to a large extent the conclusions that may be drawn regarding the relative “importance” of various conditions—and, in turn, the resources that may be indicated to prevent or minimize their impacts. This annual summary uses a standard disease classification system (modified for use among U.S. military members) and several healthcare burden measures to quantify the impacts of various illnesses and injuries among members of the U.S. Armed Forces in 2016.

METHODS
The surveillance period was 1 January through 31 December 2016. The surveillance population included all individuals who served in the active component of the U.S. Army, Navy, Air Force, or Marine Corps anytime during the surveillance period. The Defense Medical Surveillance System (DMSS) maintains electronic records of all actively serving U.S. military members’ hospitalizations and ambulatory visits in U.S. military and civilian (contracted or purchased care through the Military Health System [MHS]) medical facilities worldwide. For this analysis, DMSS data for all inpatient and outpatient medical encounters of all active component members during 2016 were summarized according to the primary (first-listed) diagnosis (if reported with an International Classification of Diseases, Tenth Revision, Clinical Modification [ICD-10] code between A00 and T88, or codes beginning with Z37). For summary purposes, all illness- and injury-specific diagnoses (as defined by the ICD 10) were grouped into 142 burden of disease-related "conditions" and 25 major categories based on a modified version of the
classification system developed for the Global Burden of Disease (GBD) Study. In general, the GBD system groups diagnoses with common pathophysiologic or etiologic bases and/or significant international health policymaking importance. For this analysis, some diagnoses that are grouped into single categories in the GBD system (e.g., mental disorders) were disaggregated to increase the military relevance of the results. Also, injuries were categorized by affected anatomic site rather than by cause because external causes of injuries are incompletely reported in military outpatient records. The “morbidity burdens” attributable to various “conditions” were estimated based on the total number of medical encounters attributable to each condition (i.e., total hospitalizations and ambulatory visits for the condition with a limit of one encounter per individual per condition per day), numbers of service members affected by each condition (i.e., individuals with at least one medical encounter for the condition during the year), and total bed days during hospitalizations for each condition. RESULTS Morbidity burden, by major category In 2016, more service members (n=550,213) received medical care for injury/poisoning than any other morbidity-related category (Figures 1a, 1b). In addition, injury/poisoning accounted for more medical encounters (n=2,755,387) than any other morbidity category and approximately one-quarter (24.8%) of all medical encounters overall. Mental disorders accounted for more hospital bed days (n=154,853) than any other morbidity category and 43.8% of all hospital bed days overall (Figures 1a, 1b). Together, injury/poisoning and mental disorders accounted for more than half (56.2%) of all hospital bed days and more than two-fifths (41.8%) of all medical encounters. Of note, maternal conditions (including pregnancy complications and delivery) accounted for a relatively large proportion of all hospital bed days (n=54,856; 15.5%) but a much smaller proportion of medical encounters overall (n=176,124; 1.6%) (Figures 1a, 1b). Routine prenatal visits are not included in this summary.

2017 104 060

Fix These First: How the World's Leading Companies Point the Way Toward High Reliability in the Military Health System

Source
Journal of Healthcare Management 2017 62 (3) 197-208

Author(s)
Beauvais,B., Richter,J., et al.

Abstract
The article discusses how the leading companies in the world serve as models of high reliability in the U.S. military health system (MHS). Topics covered include how the 2014 "Military Health System Review" urges healthcare system leaders to implement effective strategies that are used by other high-performing organizations and the common attributes of high-reliability organizations (HROs) such as universal understanding of business processes and proactive evaluation and removal of risk.

Source
Medical Surveillance Monthly Report 2017 24 (4) 9-15
Author(s)
N.K.

Abstract
This report documents the frequencies, rates, trends, and distributions of hospitalizations of active component members of the U.S. Army, Navy, Air Force, and Marine Corps during calendar year 2016. Summaries are based on standardized records of hospitalizations at U.S. military and non-military (reimbursed care) medical facilities worldwide. For this report, primary (first-listed) discharge diagnoses are considered indicative of the primary reasons for hospitalizations; summaries are based on the first three characters of the International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10) used to report primary discharge diagnoses. Hospitalizations not routinely documented with standardized, automated records (e.g., field training exercises, shipboard) are not centrally available for health surveillance purposes and thus are not included in this report.


Source
Military Medicine 2017 182 (5) 1582-1583
Author(s)
Carmona,R.,.

Abstract
As the new President of the United States (POTUS) and the Secretary of Health and Human Service take office, it will be essential for them to know how previous political leadership over many decades and both political parties have undermined the credibility of the office of United States Surgeon General (USSG) and the United States Public Health Service Commissioned Corps (USPHSCC). These political manipulations, cumulatively over decades, circumventing established legislation, policy, and procedures, whether intentional or inadvertent have created a loss of parity with our fellow uniformed services, diminished officer morale, created significant divisiveness within Health and Human Service, and caused a continued struggle for the USPHSCC to retain its identity as a legitimate uniformed service of the United States.
See also

See also

**Offline: The new neglected (non-tropical) diseases.**

Under Tropical Medicine.
Evidence of Objective Memory Impairments in Deployed Gulf War Veterans with Subjective Memory Complaints.

Source
Military Medicine 2017 182 (5) e1625-e1631

Author(s)
Chao, L.L.,

Abstract
Introduction: Despite the fact that many veterans returned from the 1991 Gulf War (GW) with complaints of memory difficulties, most neuropsychological studies to date have found little evidence of a correspondence between subjective and objective measures of cognitive function in GW veterans. However, if GW veterans complain about memory problems, it is likely that they experience memory problems in their daily lives. In this respect, it is notable that the past studies that have investigated the relationship between subjective and objective measures of cognitive function in GW veterans used composite measures to quantify subjective complaints and batteries of neuropsychological tests that assessed multiple domains to objectively measure cognitive function. The study's focus on memory was motivated by the suggestive evidence that subjective memory complaint may be a harbinger of further cognitive decline and increased risk for dementia. Materials and Methods: This study examined the association between subjective memory complaint (probed with single question: “Do you have difficulty remembering things?”) and performance on a single objective test of verbal learning and memory (i.e., California Verbal Learning Test, CVLT-II) in a sample of 428 deployed GW veterans. Results: GW veterans who endorsed memory difficulties performed more poorly on CVLT-II measures of total learning, retention, and delayed recall than GW veterans without subjective memory complaints (p < 0.001), even after accounting for demographic (e.g., age, sex, education) and clinical variables (e.g., diagnoses of current post-traumatic stress disorder [PTSD], depressive disorder, and/or anxiety disorder) that could potentially contribute to memory deficits. Among GW veterans who met the Centers for Disease Control and Prevention criteria for chronic multisymptom illness (N = 272), subjective memory complaint significantly predicted CVLT-II retention scores (β = −0.12, p = 0.04) and marginally predicted CVLT-II delayed recall scores (β = −0.11, p = 0.05) over and above potentially confounding demographic and clinical variables. Conclusion: This study suggests that deployed GW veterans with subjective memory complaints have objective memory impairments. In light of the evidence linking subjective memory complaint to increased risk for dementia in the elderly, these findings suggest that aging GW veterans with subjective memory complaints should be closely monitored for further cognitive decline.
New Onset Migraine Associated With a Civilian Burn Pit.

Source
Military Medicine 2017 182 (5) e1812-e1813

Author(s)
Chalela, J.A.,.

Abstract
Background: Deployed service members exposed to burn pit smoke can experience a multitude of symptoms. Respiratory symptoms after burn pit smoke exposure are well recognized, but neurologic symptoms are less well recognized. There are reports of migraines triggered by odors but no specific reports of new onset migraines triggered by exposure to burn pit smoke. Clinicians encountering patients with new onset migraines in the deployed setting face the dilemma of evacuating the patients to perform neuroimaging or keeping them in theatre. Methods: Retrospective case series study and review of the literature. Findings: Three patients with new onset headache after exposure to open burn pit smoke are described. The headaches met established criteria to be classified as migraine with aura in two patients and migraine without aura in one patient. The migraines were triggered by exposure to the burn pit smoke and relieved by avoidance of the smoke. The patients did not have history of migraine and had normal neurological examinations. Computed tomography performed in one patient and optic nerve insonation performed in all three patients were normal. The patients responded well to triptans and antiemetic medicines. Discussion: Nociceptive odors can trigger classic migraines in adults without prior history of migraine. The temporal association between exposure to the odor and the development of the headache, the absence of abnormalities on neurologic examination, and the response to triptans help establish the diagnosis. Activation of the trigeminal system leading to release of pain-related neuropeptides may mediate the migrainous symptoms. Evacuation for advanced neuroimaging or specialized consultation can be avoided if the above-mentioned criteria are met.

Postconcussion symptoms reported by Operation Enduring Freedom/Operation Iraqi Freedom veterans with and without blast exposure, mild traumatic brain injury, and posttraumatic stress disorder

Source

Author(s)
O'Neil, M.E., Callahan, M., et al.

Abstract
Objective: This study examined symptom reporting related to the 10th Edition of the International Statistical Classification of Diseases and Related Health Problems (ICD–10) criteria for postconcussional syndrome (PCS) in Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF) Veterans. Our
aims were to: (a) examine relationships among PCS symptoms by identifying potential subscales of the British Columbia Postconcussion Symptom Inventory (BC-PSI); and (b) examine group differences in BC-PSI items and subscales in Veterans with and without blast exposure, mild traumatic brain injury (mTBI), and posttraumatic stress disorder (PTSD). Method: Our sample included Veterans with blast-related mTBI history (n = 47), with blast exposure but no mTBI history (n = 20), and without blast exposure (n = 23). Overall, 37 Veterans had PTSD, and 53 did not. We conducted an exploratory factor analysis (EFA) of the BC-PSI followed by multivariate analysis of variance to examine differences in BC-PSI subscale scores by blast exposure, mTBI history, and PTSD. Results: BC-PSI factors were interpreted as cognitive, vestibular, affective, anger, and somatic. Items and factor scores were highest for Veterans with blast exposure plus mTBI, and lowest for controls. Vestibular, affective, and somatic factors were significantly higher for Veterans with blast exposure plus mTBI than for controls, but not significantly different for those with blast exposure but no mTBI. These results remained significant when PTSD symptom severity was included as a covariate. Cognitive, anger, and somatic subscales were significantly higher for Veterans with PTSD, though there was no interaction effect of PTSD and mTBI or blast history. Conclusions: EFA-derived subscales of the BC-PSI differentiated Veterans based on blast exposure, mTBI history, and PTSD.

Reprogramming cells from Gulf War veterans into neurons to study Gulf War illness

Source
Neurology 2017 88 (20) 1968-1975

Author(s)

Abstract
Gulf War illness (GWI), which afflicts at least 25% of veterans who served in the 1990-1991 war in the Persian Gulf, is thought to be caused by deployment exposures to various neurotoxicants, including pesticides, anti-nerve gas pills, and low-level nerve agents including sarin/cyclosarin. GWI is a multisymptom disorder characterized by fatigue, joint pain, cognitive problems, and gastrointestinal complaints. The most prominent symptoms of GWI (memory problems, poor attention/concentration, chronic headaches, mood alterations, and impaired sleep) suggest that the disease primarily affects the CNS. Development of urgently needed treatments depends on experimental models appropriate for testing mechanistic hypotheses and for screening therapeutic compounds. Rodent models have been useful thus far, but are limited by their inability to assess the contribution of genetic or epigenetic background to the disease, and because disease-vulnerable proteins and pathways may be different in humans relative to rodents. As of yet, no postmortem tissue from
the veterans has become available for research. We are moving forward with a paradigm shift in the study of GWI, which utilizes contemporary stem cell technology to convert somatic cells from Gulf War veterans into pluripotent cell lines that can be differentiated into various cell types, including neurons, glia, muscle, or other relevant cell types. Such cell lines are immortal and will be a resource for GWI researchers to pursue mechanistic hypotheses and therapeutics.
# How much is enough? Using Delphi to explore the clinical-contact-time and return-to-practice needs of military nurses

**Source**
Nursing Management - UK 2017 24 (2) 20-24

**Author(s)**
Kenward, G.

**Abstract**
Aim Military nurses are required to deploy worldwide at any time to support British forces. They must maintain military and clinical skills, and fulfil other military commitments as required. These diverse responsibilities make it challenging for military nurses to maintain the level of clinical expertise they require for short-notice deployments. A service evaluation was conducted to investigate issues related to clinical contact time (CCT) and to return to practice (RTP) for military nurses. Method A consultative approach was taken in the form of a modified Delphi study, followed by a military judgement panel (focus group). Results Two aspects of the study are reported here: CCT and RTP. Panellists considered that policy rather than guidance is needed to ensure military nurses achieve the requisite CCT to prepare them for operational deployment. Additionally, there was a broad consensus on a range of issues, including minimum CCT for specific groups and mechanisms to support those returning to practice. Conclusion Maintaining clinical skills, and the challenges of returning to practice, require careful consideration in a mobile workforce with wide-ranging commitments. Prescribing CCT, ensuring assignment orders specify CCT and the introduction of job plans should help military nurses maintain their core and specialist nursing skills, guide commanders and reinforce the culture of 'hands-on nursing' as a valid use of time. Keywords clinical skills, clinical contact time, competence, Delphi, military nurses, nursing management, operational deployment, return to practice.

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# Military Nursing. The Patient CaringTouch System: A Framework for Positive Practice Environments

**Source**
MEDSURG Nursing 2017 26 (3) 215-218

**Author(s)**
Shear, K.

**Abstract**
The article discusses the different aspects of the Patient CaringTouch System (PCTS) introduced and implemented by the U.S. Army Nurse Corps in 2011. Topics covered include details relating to the patient-centered care delivery framework of the PCTS, the sustainability strategy used to embrace PCTS,
and the noted implications of the PCTs in the nursing practice. It also discusses the benefits of using the PCTs in healthcare organizations.

2017 104 069

Military to civilian nurse: Personal and professional reconstruction

Source
Journal of Clinical Nursing 2017 26 (9-10) 1375-1384
Author(s)

Abstract
Aims and Objectives: To examine and describe the transition process of military nurses from military nursing practice to civilian nursing practice. A second aim was to identify challenges and facilitators to this transition.; Background: Serving in the military, and embodying its values, can have a major impact on a person’s worldview. These individuals serve not only as nurses but also as part of a larger military culture with a mission to protect. The decision to separate from the military and transition into the civilian workforce carries many challenges capable of influencing nurses’ personal and professional identities.; Design: Qualitative descriptive.; Methods: Semi-structured interviews of 10 nurse veterans were conducted in 2015-2016. Data were collected until saturation was reached.; Results: The transition includes four major phases from military to civilian nurse: Separating from Military Life, Conflict and Chaos, Shifting Sands and Personal and Professional Reconstruction. Duration and progress through each phase varied slightly for individual nurses.; Conclusions: Both work-role and personal identity transition occur when a nurse leaves the military and enters civilian practice. Military and civilian organisations, in both the USA and other countries, can implement supports to aid these nurses during this personal and professional change. Recommendations from the study group are provided.; Relevance To Clinical Practice: The global nursing profession, as well as healthcare organisations that employ nurse veterans, has a commitment and obligation to understand the transition process of nurses who practise within the scope of military nursing and later in civilian nursing environments so that they may be supported and used to the extent of their prior experience. Lessons learned and advice from this group of nurses may positively aid others in their transition experience.

2017 104 070

‘You never come back the same’: the challenge of spiritual care in a deployed military nursing context

Source
Journal of Clinical Nursing 2017 26 (9-10) 1351-1362
Author(s)

Abstract
Aims and Objectives: To explore the experience of spirituality and spiritual
care by military nurses on deployed operations.; Background: Despite an increasing body of research addressing spirituality in nursing care in a variety of clinical settings, the deployed military nursing context remains poorly understood.; Design: A qualitative, philosophical hermeneutic design.; Method: Ten Australian military nurses were interviewed about their experiences of spirituality and spiritual care while on deployed operations. Analyses were performed using a phenomenological method informed by philosophical hermeneutics.; Results: The participants perceived that they had an important role in the provision of spiritual care in the absence of family on deployed operations. However, the nurse also needed to care for their own spiritual needs. The results suggested that spirituality and spiritual care may provide positive benefits in protecting against the long-term psychological, emotional and spiritual impacts of military service on deployed operations.; Conclusions: Military nurses need to understand the factors that influence spiritual care delivery in their practice setting. Nurses need to be cognizant of the importance of spiritual care in the deployed military context, not only for their patients and colleagues, but also for themselves. Spirituality is argued as a protective factor against the challenges and consequences often associated with deployment. Well-developed spiritual resilience may assist in ensuring that military personnel return home emotionally, psychologically and spiritually ‘fit’.; Relevance For Clinical Practice: To provide effective spiritual nursing care to deployed military populations, the nurse needs to understand the complex military practice environment, the personal and individual nature of spiritual expressions and their own spiritual care requirements. Meaningful spiritual care aids resilience against the psychological, emotional and spiritual dangers of deployment.

See also

Reintegration of Military Nurse Veterans. Under Psychology.

**OBSTETRICS**

2017 104 071

**Effects of post-traumatic stress disorder on pregnancy among US military veterans: Lessons for research on stress and racial disparities**

**Source**
Paediatric and Perinatal Epidemiology 2017 31 195-197

**Author(s)**
Misra, D., Giurgescu., C

**Abstract**
Post-traumatic stress disorder (PTSD) is a significant mental health concern in pregnant women. According to a recent systematic review and meta-analysis, the prevalence of PTSD ranges from 0% to 40%. The results of this study suggest that PTSD may increase the risk of antepartum complications among veterans.

2017 104 072

**Risk Factors Associated with Miscarriage and Impaired Fecundity among United States Servicewomen during the Recent Conflicts in Iraq and Afghanistan**

**Source**
Women's Health Issues 2017 27 (3) 356-365

**Author(s)**
Ippolito, A.C., Seelig, A.D., et al.

**Abstract**
Background Research on the reproductive health of U.S. servicewomen deployed in support of the recent operations in Iraq and Afghanistan is sparse. The objective of this study was to evaluate whether military experiences, including combat deployment, deployment length, and life stressors during the recent conflicts, were associated with increased odds for miscarriage or impaired fecundity among U.S. servicewomen. Methods We used data from the Millennium Cohort Study, a large longitudinal military study that began in 2001 and includes military personnel from all service branches, including active duty and Reserve/National Guard personnel. Participants for this study included women aged 18 to 45 years who had completed two questionnaires (2004–2006 and 2007–2008). Separate multivariable logistic regression models were performed to estimate the odds of reporting miscarriage and impaired fecundity by military experiences that adjusted for covariates. Subanalyses were conducted using International Classification of Diseases, Ninth Revision, Clinical Modification codes found in the Military Health System Data Repository for both outcomes among servicewomen on active duty. Results Overall, 31% and 11% of military servicewomen reported miscarriage and impaired fecundity, respectively, during the approximate 3-
year follow-up period. After adjusting for demographic, behavioral, and military characteristics, deployment experiences and life stressors were not associated with miscarriage or perceived impaired fecundity. Subanalyses using medical record data confirmed these results. Conclusions Overall, these results suggest that military deployments do not increase risk for miscarriage and impaired fecundity among U.S. servicewomen. However, because the point estimates for many of the exposures were elevated, more research is needed to better understand the potential risks associated with environmental exposures and specific types of combat exposures.

Source
Military Medicine 2017 182 (5) e1782-e1791

Author(s)
Lo,M.C., and Giffin,R.P.,

Abstract
Objective: The high-mobility multipurpose wheeled vehicle (HMMWV) is a light military tactical vehicle. During Operation Iraqi Freedom and Operation Enduring Freedom, the U.S. Army modified the HMMWV into a combat vehicle by adding vehicle armor, which made the vehicle more difficult to control and more likely to roll over. Consequently, reports of fatal rollover accidents involving up-armored HMMWVs began to accumulate during the up-armoring period (August 2003 to April 2005). Furthermore, the lack of occupant restraint use prevalent in a predominantly young, male, and enlisted military population compounded the injuries resulting from these accidents. In this retrospective case series analysis, we describe the characteristics of U.S. Army HMMWV rollover accidents, occupants, and injuries reported worldwide from fiscal year 1992 to 2013 based on reported occupant restraint use.

Methods: We conducted all analyses using Microsoft Excel 2010 and SAS version 9.1. Because this analysis does not constitute human subjects research, no institutional review board review was required. First, we obtained U.S. Army HMMWV accident records from the U.S. Army Combat Readiness Center, and selected those records indicating a HMMWV rollover had occurred. Next, we successively deduplicated the records at the accident, vehicle, occupant, and injury levels for descriptive analysis of characteristics at each level. For each occupant position, we calculated relative, attributable, and population attributable risks of nonfatal and fatal injury based on reported occupant restraint use. Finally, we analyzed body part injured and nature of injury to characterize the injury patterns that HMMWV occupants in each position sustained based on restraint use. We performed a χ² test of homogeneity to assess differences in injury patterns between restrained and unrestrained occupants. Results: A total of 819 U.S. Army HMMWV rollover accidents worldwide were reported from October 1991 through May 2013 involving 821 HMMWVs and 1,395 occupants (828 nonfatally injured, 151 fatally injured, and 416 noninjured). Thirty-five percent of more severe (class A and B) accidents involved the M1114 up-armored variant, whereas 32% of less severe (class C and D) accidents involved the M998 nonarmored variant. Unrestrained occupants were 20% more likely to be nonfatally injured and 5.6 times more likely to be fatally injured than were restrained occupants. Among unrestrained occupants, restraint use could have potentially saved 82% of lives lost. Among all occupants involved in a HMMWV rollover, an estimated 56% of fatalities could have been prevented by restraint use. Unrestrained drivers and vehicle commanders had greater than expected torso injuries, while restrained vehicle commanders and passengers had greater than
expected upper extremity injuries. Unrestrained drivers had greater than expected fractures, whereas restrained drivers and vehicle commanders had greater than expected sprains/strains. Conclusion: While reporting bias may exist, nevertheless these results show that occupant restraint use confers substantial life-saving protection to HMMWV occupants in rollover accidents. Therefore, commanders, safety officers, and peers should continue to promote and enforce restraint use consistently during all Army ground operations and training involving HMMWVs. Doing so will save Soldiers' lives in rollover accidents during the remaining years of the HMMWV program.

2017 104 074

Occupation and risk of prostate cancer in Canadian men: A case-control study across eight Canadian provinces.

Source
Cancer Epidemiology 2017 48 ( ) 96-103
Author(s)

Abstract
Background The etiology of prostate cancer continues to be poorly understood, including the role of occupation. Past Canadian studies have not been able to thoroughly examine prostate cancer by occupation with detailed information on individual level factors. Methods Occupation, industry and prostate cancer were examined using data from the National Enhanced Cancer Surveillance System, a large population-based case-control study conducted across eight Canadian provinces from 1994 to 1997. This analysis included 1737 incident cases and 1803 controls aged 50 to 79 years. Lifetime occupational histories were used to group individuals by occupation and industry employment. Odds ratios and 95% confidence intervals were calculated and adjustments were made for known and possible risk factors. Results By occupation, elevated risks were observed in farming and farm management (OR = 1.37, 95% CI 1.02-1.84), armed forces (OR = 1.33, 95% CI 1.06-1.65) and legal work (OR = 2.58, 95% CI 1.05-6.35). Elevated risks were also observed in office work (OR = 1.20, 95% CI 1.00-1.43) and plumbing (OR = 1.77, 95% CI 1.07-2.93) and with >=10 years duration of employment. Decreased risks were observed in senior management (OR = 0.65, 95% CI 0.46-0.91), construction management (OR = 0.69, 95% CI 0.50-0.94) and travel work (OR = 0.37, 95% CI 0.16-0.88). Industry results were similar to occupation results, except for an elevated risk in forestry/logging (OR = 1.54, 95% CI 1.06-2.25) and a decreased risk in primary metal products (OR = 0.70, 95% CI 0.51-0.96). Conclusion This study presents associations between occupation, industry and prostate cancer, while accounting for individual level factors. Further research is needed on potential job-specific exposures and screening behaviours.
See also

New Onset Migraine Associated With a Civilian Burn Pit.
Under Neurology.

Under Urology.
Birt–Hogg–Dubé Syndrome: Another Battle for a Retired Navy Seal.

Source
Military Medicine 2017 182 (5) e1820-e1822
Author(s)
Simpson,M.M., and Calais,C.J.,.

Abstract
Birt–Hogg–Dubé syndrome is an autosomal dominant cancer syndrome characterized by upper torso and facial fibrofolliculomas, acrochordons, pneumothorax, and renal cell carcinoma. Although a rare syndrome, its prevalence is likely underestimated. Additionally, since it presents in patients’ 20s or 30s, otherwise healthy members of the military may be affected, as with the index patient discussed in this case report.

Study of the Association between Serum Vitamin D Levels and Prostate Cancer.

Source
Military Medicine 2017 182 (5) e1769-e1774
Author(s)
Stanaland,M., and Jiroutek,M.

Abstract
Introduction: Vitamin D has been suggested as a marker for prostate cancer risk, but prior study results are conflicting. This study evaluated the association of prostate cancer diagnosis with vitamin D levels as well as with each of the following variables of interest: age, race group, military service, smoking status, and alcohol use. Methods: A total of 11,547 adult males aged 18 or older who participated in the National Health and Nutrition Examination Survey for years 2001–2010 were included in this retrospective, cross-sectional, observational study. National Health and Nutrition Examination Survey is an annual, nationally representative sample of noninstitutionalized civilian adult and child residents of the United States. Active duty military are excluded from the survey. Subjects were excluded if they answered “don't know” or “refused” to vitamin D or prostate cancer survey questions. χ2 analyses were performed to analyze associations between diagnosis of prostate cancer and variables of interest. The military service variable was developed on the basis of the response to survey question “Did you ever serve in the Armed Forces of the United States?” A multivariable logistic regression model included all the variables of interest that were available in the database. All analyses were appropriately weighted for extrapolation to average annual population-based estimates for the years included in the study. Results: Two percent had a diagnosis of prostate cancer, whereas 72% had less than 75 nmol/L of vitamin D. Unadjusted χ2 test results suggested
those with a vitamin D level of <75 nmol/L, <65 years of age and consuming at least one alcoholic drink per day were significantly less likely to be diagnosed with prostate cancer although smokers and those with military service were significantly more likely to be diagnosed with prostate cancer. However, after adjusting for covariates included in the multivariable logistic regression model, only the following covariates remained significant: men <65 years old were less likely to be diagnosed with prostate cancer (odds ratio [OR] = 0.07, 95% confidence interval [CI] = 0.04–0.12), although those with military service and non-Hispanic blacks were more likely to be diagnosed with prostate cancer (OR = 1.66, 95% CI = 1.09–2.53 and OR 1.73, 95% CI 1.28–2.33, respectively). No other factors in the model, including vitamin D level, retained significance. Conclusion: Among the documented risk factors for prostate cancer from the available data, age, military service, and race group were significantly associated with prostate cancer diagnosis. Further study on a larger cohort with prostate cancer is needed to better assess for associations.

See also

**Occupation and risk of prostate cancer in Canadian men: A case-control study across eight Canadian provinces.** Under Occupational Health.
See also

Risk factors for diabetic retinopathy among homeless veterans.

Under Veteran's Health.
Lumbar spine postures in marines during simulated operational positions.

Source
Journal of Orthopaedic Research 2017 (pagination) ate of Pubaton: 2017
Author(s)

Abstract
Low back pain has a 70% higher prevalence in members of the armed forces than in the general population, possibly due to the loads and positions soldiers experience during training and combat. Although the influence of heavy load carriage on standing lumbar spine posture in this population is known, postures in other operationally relevant positions are unknown. Therefore, the purpose of this study was to characterize the effect of simulated military operational positions under relevant loading conditions on global and local lumbar spine postures in active duty male US Marines. Secondary objectives were to evaluate if intervertebral disc degeneration and low back pain affect lumbar spine postures. Magnetic resonance images were acquired on an upright scanner in the following operational positions: Natural standing with no external load, standing with body armor (11.3kg), sitting with body armor, and prone on elbows with body armor. Custom software was used to measure global lumbar spine posture: Lumbosacral flexion, sacral slope, lordosis, local measures of intervertebral angles, and intervertebral distances. Sitting resulted in decreased lumbar lordosis at all levels of the spine except L1-L2. When subjects were prone on elbows, a significant increase in local lordosis was observed only at L5-S1 compared with all other positions. Marines with disc degeneration (77%) or history of low back pain (72%) had decreased lumbar range of motion and less lumbar extension than healthy Marines. These results indicate that a male Marine's pathology undergoes a stereotypic set of postural changes during functional tasks, which may impair performance.
The Impact of Cigarette Smoking on the Formation of Heterotopic Ossification among Service Members with a Traumatic Amputation.

Source
Military Medicine 2017 182 (5) e1742-e1748

Author(s)
Lewis, P.C., and Camou, E.,

Abstract
Background: Heterotopic ossification (HO), the abnormal formation of lamellar bone in soft nonosseous tissue, has been identified as a potential complication following a traumatic amputation or traumatic brain injury (TBI). HO occurs at a dramatically higher rate among military casualties than among civilian casualties. Most investigators agree that in order for HO to form three conditions must be present: (1) osteogenic precursor cells, (2) an inducing agent or event, and 3) an environment conducive to osteogenesis. Therefore impacting on any of these three conditions should impact on the formation of HO. Anecdotal clinical reports seem to show a decreased incidence of HO among cigarette smokers. The negative effect of smoking on bone growth as well as poor healing overall is well established in the literature. It makes intuitive sense that tobacco smoking would negatively impact on an environment conducive for HO. A review of the literature found no published work that evaluated a possible link between HO and tobacco use. This study sought to determine if a relationship exists between tobacco use and the formation of HO. Methods: A retrospective data review was conducted of military medical records for service members (SMs) who have experienced a traumatic amputation. Cases were matched to controls on the basis of factors known to be associated with the development of HO including age, gender, comorbid TBI, and deployment status. Bivariate logistic regression models were used to test for associations between age, gender, TBI, and deployment status with tobacco use. Results: A total of 3,132 records of SMs with an amputation were included for analysis with 18% overall developing HO. Those that developed HO were more likely to be younger, have sustained a TBI and to use tobacco compared to those that did not develop HO. An odds ratio analysis found that SMs who experienced a deployment-related traumatic amputation were 7.34 times more likely, SMs with a TBI were 6.45 times more likely, and smokers were 1.27 times more likely to develop HO when compared to nondeployment-related amputations. Older age and female gender were found to be protective against developing HO. In the final model after matching on potential confounders, tobacco use was not related to HO among this sample. Discussion: The incidence of HO among SMs with a traumatic amputation or TBI was similar to that found in other research. Also found in this study and supported in the literature is age as a confounder for HO and the prevalence of tobacco use among SMs who have deployed. However, female gender as protective against the development of HO was an unexpected finding mainly because there are so few studies of SMs with traumatic amputations including women in the analysis. In the final analysis, given all the literature on the negative impact of smoking on bone healing, it seems counterintuitive that HO formation is unrelated to smoking status. The methodology used in this study has inherent limitations and a prospective study should be conducted to validate results.
See also

Medial knee joint contact force in the intact limb during walking in recently ambulatory service members with unilateral limb loss: A cross-sectional study. Under Rheumatology.

Rare Cause of Foot Pain: Osseous Coalition of the Third Metatarsal and Lateral Cuneiform. Under Anatomy & Physiology.

Teaching Professional Development to Orthopaedic Residents. Under Medical Education.
Acute Acoustic Trauma among Soldiers during an Intense Combat

Source
Journal of the American Academy of Audiology 2017 28 (5) 436-443
Author(s)
Yehudai,N., Fink,N., et al.

Abstract
Background: During military actions, soldiers are constantly exposed to various forms of potentially harmful noises. Acute acoustic trauma (AAT) results from an impact, unexpected intense noise ≥140 dB, which generates a high-energy sound wave that can damage the auditory system. Purpose: We sought to characterize AAT injuries among military personnel during operation "Protective Edge," to analyze the effectiveness of hearing protection devices (HPDs), and to evaluate the benefit of steroid treatment in early-diagnosed AAT injury. Research Design: We retrospectively identified affected individuals who presented to military medical facilities with solitary or combined AAT injuries within 4 mo following an intense military operation, which was characterized with an abrupt, intensive noise exposure (July-December 2014). Study Sample: A total of 186 participants who were referred during and shortly after a military operation with suspected AAT injury. Interventions: HPDs, oral steroids. Data Collection and Analysis: Data extracted from charts and audiograms included demographics, AAT severity, worn HPDs, first and last audiograms and treatment (if given). The Student's independent samples t test was used to compare continuous variables. All tests were considered significant if p values were ≤0.05. Results: A total of 186 participants presented with hearing complaints attributed to AAT: 122, 39, and 25 were in duty service, career personnel, and reservists, with a mean age of 21.1, 29.2, and 30.4 yr, respectively. Of them, 92 (49%) participants had confirmed hearing loss in at least one ear. Hearing impairment was significantly more common in unprotected participants, when compared with protected participants: 62% (74/119) versus 45% (30/67), p < 0.05. Tinnitus was more common in unprotected participants when compared with protected participants (75% versus 49%, p = 0.04), whereas vertigo was an uncommon symptom (5%versus 2.5%, respectively, p>0.05). In the 21 participants who received steroid treatment for early-diagnosed AAT, bone-conduction hearing thresholds significantly improved in the posttreatment audiograms, when compared with untreated participants (p< 0.01, for 1-4 kHz). Conclusions: AAT is a common military injury, and should be diagnosed early to minimize associated morbidity. HPDs were proven to be effective in preventing and minimizing AAT hearing sequelae. Steroid treatment was effective in AAT injury, if initiated within 7 days after noise exposure.
Exercise-Induced Anaphylaxis in an Air Force Aviator Taking a HMG-CoA Reductase Inhibitor: A Case Report and Review of the Presentation, Diagnoses, and Treatment.

Source
Military Medicine 2017 182 (5) e1816-e1819

Author(s)
Kahl, C.G., and Deas, C.,

Abstract
Background: A 46-year-old healthy male Air Force pilot presented to the emergency department (ED) experiencing symptoms of exercise-induced anaphylaxis (EIAn), during a vigorous outdoor run. The patient recovered in the ED and was seen, subsequently, by a civilian allergist; eventually a diagnosis consistent with EIAn was made. EIAn is a rare but potentially life-threatening syndrome believed to involve IgE mediated release of histamine and other immunoactive compounds, during or after exercise. The diagnosis is determined by a strong clinical suspicion along with careful exclusion of other potential diagnoses. Interestingly, this particular patient was also found to have a possible correlation between the introduction of 3-hydroxy-3-methylglutaryl-coenzyme A, for hyperlipidemia, shortly before his first episode of EIAn, and remission of the condition since discontinuing the statin medication. Methods: A detailed review of the clinical notes, ED presentation, and all subspecialty consultation notes were included in the compilation of this case report, in conjunction with a careful review of all current literature pertaining to drug exacerbated, exercise-induced EIAn. The review of literature was also conducted to review potential mechanisms of this particular hypersensitivity reaction, and to give a thorough discussion of the history and presentation of this disorder. Results: The patient described in this case was successfully treated over a 2-year period, with exercise modifications and a daily second generation antihistamine. Nearly a year after his initial diagnoses, in an acute visit to the flight medicine clinic for muscle soreness and elevated creatine kinase isoenzymes, the patient's medication profile was reviewed and his statin medication was discontinued. The clinical notes revealed that the statin was started a few months before his first onset of EIAn, and following its discontinuation, the patient has been asymptomatic for over a year, exercising regularly, and completed a successful forward deployment to an austere desert environment. Discussion: To our knowledge, this is the first reported case of possible statin exacerbated, EIAn. Data concerning the incidence of drug-induced hypersensitivity to statins are limited as is any discussion on prevalence of EIAn in adult populations. There have been, however, case reports documenting statin immunological effects on serum IgE levels, which may offer a potential mechanism of statin-exacerbated EIAn. However, the role of IgE antibodies in drug-induced anaphylactic reactions remains unclear. In this patient's case, there was no measure of statin-specific immune reactivity performed; however, the timing of statin initiation of monotherapy in relation to presentation of EIAn strongly
supports the diagnosis of statin-exacerbated EIAn. Although the mechanisms involving statin-induced EIAn remain elusive, this case report illustrates the need for military providers to recognize this condition and cofactors that may contribute to its genesis. Moreover, this case also illustrates the need for increased research and surveillance of this condition in civilian and military populations.
POST TRAUMATIC STRESS DISORDER (PTSD)

2017 104 081

Combat Experiences and their Relationship to Post-Traumatic Stress Disorder Symptom Clusters in UK Military Personnel Deployed to Afghanistan.

Source
Behavioral Medicine 2017 ( ) 1-10
Author(s)
Osorio C., Jones N., et al.

Abstract
The association of post-traumatic stress disorder (PTSD) symptom clusters with combat and other operational experiences among United Kingdom Armed Forces (UK AF) personnel who deployed to Afghanistan in 2009 were examined. Previous studies suggest that the risk of developing PTSD rises as combat exposure levels increase. To date, no UK research has investigated how specific classes of combat and operational experiences relate to PTSD symptom clusters. The current study was a secondary analysis of data derived from a two-arm cluster, randomized-controlled trial of a postdeployment operational stress-reduction intervention in deployed UK AF personnel. 2510 UK AF personnel provided combat exposure data and completed the PTSD checklist (civilian version) immediately post-deployment while 1635 of the original cohort completed further followed-up measures four to six months later. A 14-item combat experience scale was explored using principle component analysis, which yielded three main categories of experience: (1) violent combat, (2) proximity to wounding or death and (3) encountering explosive devices. The association of combat experience classes to PTSD 5-factor "dysphoric arousal" model (re-experiencing, avoidance, numbing, dysphoric-arousal and anxious-arousal symptoms) was assessed. Greater exposure to violent combat was predictive of re-experiencing and numbing symptoms, while proximity to wounding or death experiences were predictive of re-experiencing and anxious-arousal symptoms. Explosive device exposure was predictive of anxious-arousal symptoms. The present study suggests that categories of combat experience differentially impact on PTSD symptom clusters and may have relevance for clinicians treating military personnel following deployment.

2017 104 082

Cortical thickness reduction in combat exposed U.S. veterans with and without PTSD

Source
European Neuropsychopharmacology 2017 27 (5) 515-525
Author(s)
Abstract
We investigated the extent of cortical thinning in U.S. Veterans exposed to combat who varied in the severity of their posttraumatic stress disorder (PTSD) symptoms. In addition, we explored the neural correlates of PTSD symptom dimensions and the interactive effects of combat exposure and PTSD upon cortical thickness. Sixty-nine combat exposed Veterans completed high-resolution magnetic resonance imaging (MRI) scans to estimate cortical thickness. The Clinician Administered PTSD Scale (CAPS) and Combat Exposure Scale (CES) assessments were completed to measure current PTSD and historical combat severity, respectively. PTSD symptom dimensions (numbing, avoidance, reexperiencing, anxious arousal, and dysphoric arousal) were studied. Vertex-wise whole cerebrum analyses were conducted. We found widespread negative correlations between CAPS severity and cortical thickness, particularly within the prefrontal cortex. This prefrontal correlation remained significant after controlling for depression severity, medication status, and other potential confounds. PTSD dimensions, except anxious arousal, negatively correlated with cortical thickness in various unique brain regions. CES negatively correlated with cortical thickness in the left lateral prefrontal, regardless of PTSD diagnosis. A significant interaction between CES and PTSD diagnosis was found, such that CES negatively correlated with cortical thickness in the non-PTSD, but not in the PTSD, participants. The results underscore the severity of cortical thinning in U.S. Veterans suffering from high level of PTSD symptoms, as well as in Veterans with no PTSD diagnosis but severe combat exposure. The latter finding raises considerable concerns about a concealed injury potentially related to combat exposure in the post-9/11 era.

Effectiveness of Eye Movement Desensitization and Reprocessing in German Armed Forces Soldiers With Post-Traumatic Stress Disorder Under Routine Inpatient Care Conditions.

Source
Military Medicine 2017 182 (5) e1672-e1680

Author(s)
Köhler,K., and Eggert,P.,

Abstract
Background: Post-traumatic stress disorder (PTSD) is one of the more commonly occurring mental disorders following potentially traumatizing events soldiers may encounter when deployed abroad. One of the first-line recommended treatment options is eye movement desensitization and reprocessing (EMDR). The number of studies assessing the effectiveness of EMDR in German soldiers under routine conditions is currently almost nil. Methods: A retrospective, quasi-experimental effectiveness study on EMDR in an inpatient setting is presented using a prepost design. The study compares symptom reduction in soldiers (N = 78) with a wait-list (N = 18). Effect sizes of EMDR were measured for PTSD, symptoms of depression, and general...
mental health. Results: Effect size for EMDR treatment of PTSD was $d = 0.77$; 95% confidence interval (CI): 0.51 to 1.36, for symptoms of depression $d = 0.99$; 95% CI: 0.31 to 1.36, and for general psychiatric symptoms $d = 0.53$; 95% CI: 0.17 to 1.21. The effects resulting from EMDR treatment were somewhat weaker than those reported in comparable studies in civilians. Conclusion: EMDR therapy is an effective treatment to reduce symptoms of PTSD and depression. However, in the military context it needs to be complemented by treatment options that specifically address further conditions perpetuating the disorders.

2017 104 084

The factor structures and correlates of PTSD in post-conflict Timor-Leste: An analysis of the Harvard Trauma Questionnaire

Source
BMC Psychiatry 2017 17 ( )

Author(s)

Abstract
Background: Post-traumatic stress disorder (PTSD) is the most widely assessed form of mental distress in cross-cultural studies conducted amongst populations exposed to mass conflict and displacement. Nevertheless, there have been longstanding concerns about the universality of PTSD as a diagnostic category when applied across cultures. One approach to examining this question is to assess whether the same factor structure can be identified in culturally diverse populations as has been described in populations of western societies. We examine this issue based on an analysis of the Harvard Trauma Questionnaire (HTQ) completed by a large community sample in conflict-affected Timor-Leste. Method: Culturally adapted measures were applied to assess exposure to conflict-related traumatic events (TEs), ongoing adversities, symptoms of PTSD and psychological distress, and functional impairment amongst a large population sample ($n = 2964$, response rate: 82.4%) in post-conflict Timor-Leste. Results: Confirmatory factor analyses of the ICD-10, ICD-11, DSM-IV, four-factor Emotional Numbing and five-factor Dysphoric-Arousal PTSD structures, found considerable support for all these models. Based on these classifications, concurrent validity was indicated by logistic regression analyses which showed that being a woman, trauma exposure, ongoing adversity, severe distress, and functional impairment were all associated with PTSD. Conclusions: Although symptom prevalence estimates varied widely based on different classifications, our study found a general agreement in PTSD assignments across contemporary diagnostic systems in a large conflict-affected population in Timor-Leste. Further studies are needed, however, to establish the construct and concurrent validity of PTSD in other cultures.
Longitudinal Measurement Invariance of Posttraumatic Stress Disorder in Deployed Marines

Source
Journal of Traumatic Stress 2017 ( )

Author(s)

Abstract
The meaningful interpretation of longitudinal study findings requires temporal stability of the constructs assessed (i.e., measurement invariance). We sought to examine measurement invariance of the construct of posttraumatic stress disorder (PTSD) as based on the Diagnostic and Statistical Manual of Mental Disorders indexed by the PTSD Checklist (PCL) and the Clinician-Administered PTSD Scale (CAPS) in a sample of 834 Marines with significant combat experience. PTSD was assessed 1-month predeployment (T0), and again at 1-month (T1), 5-months (T2), and 8-months postdeployment (T3). We tested configural (pattern of item/parcel loadings), metric (item/parcel loadings on latent factors), and scalar (item/parcel-level severity) invariance and explored sources of measurement instability (partial invariance testing). The T0 best-fitting emotional numbing model factor structure informed the conceptualization of PTSD's latent factors and parcel formations. We found (1) scalar noninvariance for the construct of PTSD as measured by the PCL and the CAPS, and for PTSD symptom clusters as assessed by the CAPS; and (2) metric noninvariance for PTSD symptom clusters as measured by the PCL. Exploratory analyses revealed factor-loading and intercept differences from pre- to postdeployment for avoidance symptoms, numbing symptoms (mainly psychogenic amnesia and foreshortened future), and the item assessing startle, each of which reduced construct stability. Implications of these findings for longitudinal studies of PTSD are discussed.

Meditation-based Approaches in the Treatment of PTSD.

Source
PTSD Research Quarterly 28 2 (2) 1-10

Author(s)
Talkovsky, A.M., and Lang, A.J.,

Abstract
Evidence-based psychotherapies (EBPs), such as Prolonged Exposure and Cognitive Processing Therapy, are generally the first-line interventions for PTSD. Unfortunately, many Veterans still have diagnosable PTSD following EBPs (Steenkamp, Litz, Hoge, & Marmar, 2015) or prefer to try other strategies (Markowitz et al., 2016). Thus, there is a strong need for ways to supplement existing treatments, reduce barriers to engagement in EBPs and provide alternatives for individuals who are affected by PTSD. As meditation-
based treatments have gained popularity, many practitioners and researchers are incorporating them in the treatment of PTSD (Libby, Pilver, & Desai, 2012). Multiple types of meditation, which differ in philosophy and practice, have been applied clinically. This line of research is in its relative infancy, but initial evidence suggests that meditation-based approaches merit continued investigation to evaluate their efficacy, mechanisms, and implementation within Department of Veterans Affairs (VA) settings.

Mediation and Moderation of the Relationship Between Combat Experiences and Post-Traumatic Stress Symptoms in Active Duty Military Personnel.

Source
Military Medicine 2017 182 (5) e1632-e1639
Author(s)
Steele,M., and Germain,A.,

Abstract
Background: Post-traumatic stress disorder (PTSD) is a major health concern among the U.S. military population, affecting up to 12% to 24% of veterans returning from Iraq and Afghanistan. Sleep disturbances, neuroticism, and childhood trauma have all been associated with the development of PTSD in military populations, especially in relation to combat experiences. The effects of disrupted sleep and post-traumatic stress can affect the physical well-being of soldier and sailors in the field and impact them for years after deployment. This study aimed to evaluate the relationship between self-reported measures of combat experiences, PTSD symptoms, sleep, neuroticism, and childhood adversity in an active duty military population. Methods: 972 U.S. Navy Sailors serving in Afghanistan were given anonymous surveys that assess scales of combat stressors, PTSD symptoms, sleep problems, neuroticism, adverse child experiences (ACEs), and other covariates. Sleep disturbances were hypothesized as moderators, having an indirect effect on the relationship between combat experiences and PTSD symptoms. Neuroticism scores and ACEs were proposed as moderators of the combat–PTSD symptom relationship. Mediation and moderation models were developed and tested using logistic regressions. Findings: Increased number of combat experiences was found to be a significant predictor of PTSD, even when adjusting for all covariates (p < 0.05). Consistent with partial mediation, nightmares had an indirect effect on the relationship between combat experiences and PTSD symptoms in the final model (path coefficient = 0.233, 95% confidence interval = 0.036, 0.483). Neuroticism was an independent predictor of PTSD symptoms (p < 0.001), but the interaction of combat and neuroticism did not predict symptoms of PTSD. ACEs did not have a significant impact in the model as either an independent predictor or a moderating factor. Discussion: These results indicate that the presence of nightmares may partially explain how traumatic combat experiences lead to the development of PTSD. The study also reaffirms neuroticism as risk factor for developing PTSD symptoms. These findings highlight the importance of sleep hygiene and operational stress models in combat situations and may help stress control professionals address risk factors associated with PTSD symptoms.
**National Guard and Reserve: An Examination of Differences on Posttraumatic Stress Symptoms.**

**Source**
Military Behavioral Health 2017 5 (2) 157-162

**Author(s)**
Hofscher,R., and Bennett,E.,

**Abstract**
National Guard and Reserve service members have some of the highest rates of posttraumatic stress disorder in the military. Despite similarities between the 2 groups, the groups maintain separate roles in warfare, with the National Guard component having a more combat-oriented role than does the Reserve component. This study examined the differences in posttraumatic stress symptoms between 305 National Guard service members and 349 Reserve service members residing in the southwestern region of Pennsylvania. National Guard service members had significantly higher averages of posttraumatic stress symptoms than did Reserve service members. Further clinical implications are discussed.

**Predictors of PTSD 40 years after combat: Findings from the National Vietnam Veterans longitudinal study**

**Source**
Depression and Anxiety 2017 ( )

**Author(s)**

**Abstract**
Background: Few studies have longitudinally examined predictors of posttraumatic stress disorder (PTSD) in a nationally representative sample of US veterans. We examined predictors of warzone-related PTSD over a 25-year span using data from the National Vietnam Veterans Longitudinal Study (NVVLS). Methods: The NVVLS is a follow-up study of Vietnam theater veterans (N = 699) previously assessed in the National Vietnam Veterans Readjustment Study (NVVRS), a large national-probability study conducted in the late 1980s. We examined the ability of 22 premilitary, warzone, and postmilitary variables to predict current warzone-related PTSD symptom severity and PTSD symptom change in male theater veterans participating in the NVVLS. Data included a self-report Health Questionnaire survey and a computer-assisted telephone Health Interview Survey. Primary outcomes were self-reported PTSD symptoms assessed by the PTSD Checklist for DSM-5 (PCL 5) and Mississippi PTSD Scale (M-PTSD). Results: Predictors of current PTSD symptoms most robust in hierarchical multivariable models were African-American race, lower education level, negative homecoming reception, lower current social support, and greater past-year stress. PTSD
Symptoms remained largely stable over time, and symptom exacerbation was predicted by African-American race, lower education level, younger age at entry into Vietnam, greater combat exposure, lower current social support, and greater past-year stressors. Conclusions: Findings confirm the robustness of a select set of risk factors for warzone-related PTSD, establishing that these factors can predict PTSD symptom severity and symptom change up to 40 years postdeployment.

2017 104 090

PTSD, Psychotropic Medication Use, and the Risk of Dementia Among US Veterans: A Retrospective Cohort Study

Source
Journal of the American Geriatrics Society 2017 65 (5) 1043-1050

Author(s)

Abstract
Objective To determine the associations between PTSD, psychotropic medication use, and the risk for dementia. Design Retrospective cohort. Participants Nationwide sample of US veterans (N = 417,172) aged =56 years during fiscal year (FY) 2003 without a diagnosis of dementia or mild cognitive impairment at baseline (FY02-03) and =1 clinical encounter every 2 years during follow-up (FY04-12). Measures Demographic characteristics; diagnosis of PTSD, dementia, and medical and psychiatric comorbidity (defined by ICD-9 codes); and psychotropic medication use including selective serotonin reuptake inhibitors (SSRI), serotonin-norepinephrine reuptake inhibitors (SNRI), novel antidepressants (NA), benzodiazepines (BZA), and atypical antipsychotics (AA). Cox proportional hazard models examined for associations between PTSD diagnosis, psychotropic medication use, and risk for a dementia diagnosis. Results PTSD diagnosis significantly increased the risk for dementia diagnosis (HR = 1.35; 95% CI = 1.27-1.43]). However, there were significant interactions between PTSD diagnosis and use of SSRIs (P < .001), NAs (P = .014), and AAs (P < .001) on the risk for dementia diagnosis. HR for dementia diagnosis among veterans diagnosed with PTSD and not using psychotropic medications was 1.55 (1.45-1.67). Among veterans diagnosed with PTSD prescribed SSRI, SNRI, or AA, HR for dementia diagnosis varied by drug class use ranging from 1.99 for SSRI to 4.21 for AA, relative to veterans without a PTSD diagnosis and no psychotropic medication receipt. BZAs or SNRIs use at baseline was associated with a significantly increased risk for dementia diagnosis independent of a PTSD diagnosis. Conclusion PTSD diagnosis is associated with an increased risk for dementia diagnosis that varied with receipt of psychotropic medications. Further research would help to delineate if these findings are due to differences in PTSD severity, psychiatric comorbidity, or independent effects of psychotropic medications on cognitive decline.
Understanding Combat-Related PTSD Symptom Expression Through Index Trauma and Military Culture: Case Studies of Filipino Soldiers.

Source
Military Medicine 2017 182 (5) e1665-e1671

Author(s)
Dela, C.F.C., and De Guzman, R.G.

Abstract
Objective: Few studies demonstrate how the index trauma may influence subsequent post-traumatic stress disorder (PTSD) symptoms, especially among soldiers. There is still no consensus on specific trauma types and their corresponding PTSD symptom profiles. Furthermore, varied PTSD symptom manifestations that may yield to PTSD trauma subtypes are yet to be known. Importantly, the significance of the military culture's possible influence on soldiers' PTSD has also been underexplored. And the dominant PTSD construct may possibly be unable to capture the essential aspects of the military context in understanding combat-related PTSD. Hence, this study aims to reach an understanding into how index trauma and military culture may possibly shape participants' PTSD expressions.

Materials and Method:
Case study design was used, wherein multiple sources of data—such as PTSD assessments, and interviews with the participants and key informants—enabled data triangulation. The three case reports are the outcomes of the corroboration of evidences that reveal an enriched and holistic understanding of the phenomenon under study. The Ethics Review Board Committee of the Armed Forces of the Philippines Medical Center approved the study. The participants were three Filipino active duty combat soldiers.

Results: Although all participants had similar index traumas, their PTSD symptom expressions are unique from one another, in that they differ in terms of their most incapacitating PTSD symptoms and other symptoms that have been potentially shaped by military culture. Their most incapacitating symptoms: hypervigilance (case 1), negative belief in oneself and negative emotions (case 2), prolonged distress, and marked physiological reactions to trauma-related cues (case 3), may be understood in the light of how they personally experienced different circumstances of their index traumas. The way participants have anchored specific components of their sworn soldier's creed (i.e., not leaving a fallen comrade) into some of their PTSD symptoms (i.e., feeling guilty for the comrade's death) may be understood in the light of their military culture and how they were personally traumatized by the details of their index traumas.

Conclusion: The participants' index trauma and military culture potentially shaped their PTSD symptom expressions that were distinct from one another. The details of the index trauma, including the level of exposure and proximity; and the salience of military culture, such as the soldier's creed, are important elements into understanding how participants experience their PTSD. Limitations of the study include findings that do not give causal interpretations, use of self-report measures, retrospective accounts from interviews, and participants who are all Filipino active soldiers and enlisted army military personnel. Nevertheless, the study provides an enriched and holistic understanding of personal experiences of soldiers with combat-related PTSD. The findings may inform tailored treatments to soldiers whose experiences may be similar to the settings and concepts discovered in.
the study. Possible clinical and treatment implications were provided in the study. Future researchers may explore on: possible existence of PTSD subtypes within combat-related PTSD category, other facets of military culture that may mitigate or influence PTSD symptoms, and potential roles of index trauma and military culture using national representative samples.

See also


Effects of post-traumatic stress disorder on pregnancy among US military veterans: Lessons for research on stress and racial disparities


Medicinal versus recreational cannabis use: Patterns of cannabis use, alcohol use, and cued-arousal among veterans who screen positive for PTSD. Under Addictive Disorders.


Predictors of Help-Seeking Intentions in Operation Enduring Freedom and Operation Iraqi Freedom Veterans and Service Members. Under Psychology.

Veterans with post-traumatic stress disorder exhibit altered emotional processing and attentional control during an emotional Stroop task. Under Veteran’s Health.
Examining Associations between Relocation, Continuity of Care, and Patient Satisfaction in Military Spouses.

Source
Military Medicine 2017 182 (5) e1656-e1664

Author(s)
Gleason, J.L., and Beck, K.H.,

Abstract
Introduction: The purpose of this study was to determine how frequent permanent change of station moves and turnover in primary care providers are associated with continuity of care and patient satisfaction in military spouses. These domains have been studied extensively in civilian populations, but this study seeks to begin filling a gap in the literature surrounding military spouses and their experiences with the military health system. Materials and Methods: Spouses were recruited via social media to complete a brief online questionnaire to examine factors related to continuity of care and satisfaction with military health care. Results were analyzed using analysis of variance and χ² tests, and through logistic regression. Results: Continuity of care scores were significantly lower as the number of moves and providers increased. Patient satisfaction was also significantly associated with continuity. In logistic regression analyses, patient–provider relationship and health status were the only significant predictors across two measures of patient satisfaction. Respondents with higher relationship scores were nearly two times more likely to report being satisfied than those with lower scores. Qualitative results indicated that the majority of dissatisfied spouses were unhappy with their military providers, which supported quantitative findings related to patient–provider relationship. Conclusion: No studies have previously been conducted to determine why military health system beneficiaries are less satisfied with care than their civilian counterparts. Discontinuous care is an ongoing issue for military families, which can impact satisfaction and potentially lead to poorer health outcomes. Although the military culture may not allow for fewer relocations, these results indicate that taking steps to promote enduring, trusting relationships with primary care providers may improve patient satisfaction.
A national evaluation of homeless and nonhomeless veterans’ experiences with primary care

Source
Psychological Services 2017 14 (2) 174-183

Author(s)

Abstract
Persons who are homeless, particularly those with mental health and/or substance use disorders (MHSUDs), often do not access or receive continuous primary care services. In addition, negative experiences with primary care might contribute to homeless persons’ avoidance and early termination of MHSUD treatment. The patient-centered medical home (PCMH) model aims to address care fragmentation and improve patient experiences. How homeless persons with MHSUDs experience care within PCMHs is unknown. This study compared the primary care experiences of homeless and nonhomeless veterans with MHSUDs receiving care in the Veterans Health Administration’s medical home environment, called Patient Aligned Care Teams. The sample included VHA outpatients who responded to the national 2013 PCMH-Survey of Health Care Experiences of Patients (PCMH-SHEP) and had a past-year MSHUD diagnosis. Veterans with evidence of homelessness (henceforth ‘homeless’) were identified through VHA administrative records. PCMH-SHEP survey respondents included 67,666 veterans with MHSUDs (9.2% homeless). Compared with their nonhomeless counterparts, homeless veterans were younger, more likely to be non-Hispanic Black and nonmarried, had less education, and were more likely to live in urban areas. Homeless veterans had elevated rates of most MHSUDs assessed, indicating significant co-occurrence. After controlling for these differences, homeless veterans reported more negative and fewer positive experiences with communication; more negative provider ratings; and more negative experiences with comprehensiveness, care coordination, medication decision-making, and self-management support than nonhomeless veterans. Homeless persons with MHSUDs may need specific services that mitigate negative care experiences and encourage their continuation in longitudinal primary care services.
An Outpatient Performance Improvement Project: A Baseline Assessment of Adherence to Pain Reassessment Standards.

Source
Military Medicine 2017 182 (5) e1688-e1695
Author(s)
Ross, A., and Feider, L.,

Abstract
Background: This performance improvement (PI) project was conducted to recommend improvements for pain reassessment workflow and policies at a large military primary care clinic. The Joint Commission survey identified inconsistent pain reassessment practices at the facility in 2012. A review of the literature reveals that pain reassessment procedures can be affected by unclear organizational policies, poorly designed documentation procedures, and redundant or inefficient workflow practices. This PI project was designed to assess pain reassessment compliance rates, associated documentation, and clinic workflow, and to identify opportunities for improvement. Methods: Pain reassessment compliance was evaluated using an Electronic Medical Record (EMR) query for patients treated between February 1 and May 30, 2013, who received Toradol at a large military outpatient clinic (n = 151). In addition, observations of clinic workflow were conducted using tracer methodology as recommended by The Joint Commission to track a convenience sample of 12 patients moving through clinic care processes. Pain reassessment documentation and workflow procedures were then evaluated using the Situation Awareness (SA) framework, which is an approach used to evaluate operational implications of factors affecting staff decisions and performance (e.g., stress and workload, interface design, automation, complexity of workflow, staff abilities and training, goals and expectations). Results: The EMR review revealed compliance rates greater than 90% for all pain reassessment requirements with the exception of the maximum 30-minute interval between initial and follow-up pain assessment required by clinic policy, which had a compliance rate of 38%. Pain reassessments were documented to occur at a mean time of 48.25 minutes after initial assessment. During the tracer, none of the 12 patient encounters was fully compliant with clinic policies. An analysis of clinic workflow using the SA framework revealed that the SA of clinic staff was impacted by a lack of standardized procedures and heavy reliance on staff memory. Discussion: Recommendations for improvement included possible extension of the 30-minute time requirement, development of a template for pain reassessment documentation in the EMR, standardizing hand off and admission/discharge processes, and designing an electronic or manual dashboard to indicate pain reassessment times. Future PI projects in other military clinics would benefit from use of the SA perspective to review clinic policies, EMR documentation, and workflow analysis. Further analysis will be needed to evaluate the impact of these improvements.
Atypical Modulations of N170 Component during Emotional Processing and Their Links to Social Behaviors in Ex-combatants

Source
Frontiers in Human Neuroscience 2017 11 ( ) 244-244

Author(s)

Abstract
Emotional processing (EP) is crucial for the elaboration and implementation of adaptive social strategies. EP is also necessary for the expression of social cognition and behavior (SCB) patterns. It is well-known that war contexts induce socio-emotional atypical functioning, in particular for those who participate in combats. Thus, ex-combatants represent an ideal non-clinical population to explore EP modulation and to evaluate its relation with SCB. The aim of this study was to explore EP and its relation with SCB dimensions such as empathy, theory of mind and social skills in a sample of 50 subjects, of which 30 were ex-combatants from illegally armed groups in Colombia, and 20 controls without combat experience. We adapted an Emotional Recognition Task for faces and words and synchronized it with electroencephalographic recording. Ex-combatants presented with higher assertion skills and showed more pronounced brain responses to faces than Controls. They did not show the bias toward anger observed in control participants whereby the latter group was more likely to misclassify neutral faces as angry. However, ex-combatants showed an atypical word valence processing. That is, words with different emotions yielded no differences in N170 modulations. SCB variables were successfully predicted by neurocognitive variables. Our results suggest that in ex-combatants the links between EP and SCB functions are reorganized. This may reflect neurocognitive modulations associated to chronic exposure to war experiences.
Characterizing the Health and Attitudes of Rear Detachment Soldiers.

Source
Military Behavioral Health 2017 5 (2) 189-201
Author(s)
Jennings, K.S., and Adler, A.B.,

Abstract
This study characterized the health and attitudes of 849 soldiers assigned to the rear detachment (separated into organizational or personal reasons for nondeployed status) compared with 2,181 deployed soldiers. Rear detachment soldiers assigned for personal reasons reported more health symptoms and lower unit climate than deployed soldiers and soldiers assigned to the rear detachment for organizational reasons. Rear detachment soldiers assigned for organizational reasons reported symptom levels and unit climate similar to that of deployed soldiers. Better rear detachment leadership was associated with better soldier adjustment even after controlling for general leadership. Implications for supporting rear detachment soldiers are discussed.

The effects of captivity survival training on mood, dissociation, PTSD symptoms, cognitive performance and stress hormones.

Source
International Journal of Psychophysiology 2017 117 ( ) 37-47
Author(s)
Suurd Ralph C., Vartanian O., et al.

Abstract
In the Canadian Armed Forces (CAF), Conduct After Capture (CAC) training is a 4-day captivity survival course during which soldiers are exposed to increasing stress, and evaluated on their ability to accomplish military objectives. We hypothesized that: (a) compared to baseline, CAC training would cause significant, reversible perturbations in measures of psychological functioning and serum and salivary stress hormone levels relevant to models of stress hardness and vulnerability; and (b) deviations from baseline would be maximal at the time point of most intense stress during training. CAF personnel were assessed at baseline, twice during training (immediately prior to a less challenging interrogation role-play scenario and again following another much more intense interrogation role-play scenario), and after completion of training. At each occasion, mood, fatigue, dissociation, PTSD symptoms, short-term and working memory, and salivary cortisol and dehydroepiandrosterone (DHEA) were assessed. As predicted, scores on all measures were degraded during CAC but recovered after completion of training, and almost all measures were most degraded at the more intense interrogation role-play scenario. Unexpectedly, memory performance was unaffected by training, suggesting that a short duration of intense stress might be insufficient for degrading it. Another unexpected finding was that mood assessed prior to training predicted successful completion of training, which
bears important practical implications for increasing the success rate of training in similar environments. These results demonstrate that despite its relative brevity, CAC training nevertheless induces significant but reversible effects on psychological and physiological function—necessary preconditions for stress inoculation training.

2017 104 098

Emotion dysregulation in comorbid posttraumatic stress disorder and substance use disorders: A narrative review

Source
Military Psychology 2017 29 (3) 216-233
Author(s)

Abstract
Co-occurrence of substance use disorders (SUDs) and posttraumatic stress disorder (PTSD) is extremely common and is associated with elevated dropout and relapse rates. Given that PTSD/SUD co-occurrence rates among veterans have been found to be as high as 55-75%, it is important to identify mechanisms that may affect the interplay of both disorders. Emotion dysregulation (ED) presents a candidate mechanism that may underlie poor treatment response in co-occurring PTSD/SUD. This article proposes a transdiagnostic emotion regulation framework that considers ED conceptualized as a combination of low ability to tolerate emotional distress (low distress tolerance) and difficulties in the goal-directed use of emotion regulation strategies as a key risk factor in co-occurring PTSD/SUD. The authors review empirical findings from self-report and laboratory-based studies of ED in PTSD. They describe psychological explanations of the emotion-substance relationship and review studies documenting ED in SUDs and in co-occurring PTSD/SUD. The literature on ED in PTSD/SUD suggests that (a) patients with PTSD may resort to substances to cope with trauma-related symptoms due to ED, and (b) ED may maintain SUD symptoms and interfere with psychological treatment. Longitudinal studies on bidirectional relationships between ED and substance use in PTSD are needed, particularly research examining the course of ED in PTSD patients who use substances versus those who do not.

2017 104 099

Ethical Challenges for Military Psychologists: When Worlds Collide

Source
Ethics & Behavior 2017 27 (4) 283-296
Author(s)
Frey, R.A.M.
School of Education University of Wisconsin-Milwaukee

Abstract
Despite the mental health needs in the military and improved access to military psychologists, many in need do not seek psychological services. The military policies, culture, and environment pose considerable barriers to help
seeking. In turn, military practices often conflict with the psychologist’s professional ethics, leading to a range of ethical dilemmas including multiple relationships, multiple agencies, and limited confidentiality. To address ethical concerns and encourage service members to seek mental health services, this article proposes maintaining an understanding of military rules, law, and professional ethics; identifying multiple relationships and establishing boundaries up front; and collaborating with the patient in disclosures of information.

**Moderating effect of marital status on the association between combat exposure and post-deployment mental health in Canadian military personnel**

**Source**
Military Psychology 2017 29 (3) 177-188

**Author(s)**

**Abstract**
For military personnel, there are positive and negative aspects of marriage, which may contribute to mental health during times of high stress. The present study investigated the relationship of marital status with three mental health outcomes (general mental health, posttraumatic stress disorder PTSD, depression) among 14,624 Canadian military personnel recently deployed in support of the mission in Afghanistan. Greater combat exposure was associated with poorer postdeployment mental health, but marital status was, on its own, only slightly associated with PTSD. Marital status significantly moderated the relationship between combat exposure and mental health: For both single and married participants, mental health declined as combat exposure increased, but this association was stronger for married members. This association could be due to the additional familial demands that married personnel may face upon their return from deployment or to the stresses associated with poor marital satisfaction. Overall, results suggest that the relationship between marital status and mental health after deployment is complex and may vary according to other factors.
Predictors of Help-Seeking Intentions in Operation Enduring Freedom and Operation Iraqi Freedom Veterans and Service Members.

Source
Military Medicine 2017 182 (5) e1640-e1647

Author(s)

Abstract
Objectives: Despite significant numbers of Afghanistan and Iraqi veterans and service members who report symptoms of posttraumatic stress disorder, depression, anxiety, and substance abuse, the majority do not seek help for these problems. A better understanding of the help-seeking process might aid providers and administrators in outreach and provision of services for those who need them. Past research has shown several variables that influence an individual's help-seeking behavior: demographic variables, the nature and severity of a mental health problem, and psychological variables. The three goals of the study were to determine which variables predicted help-seeking intentions from various sources for a psychological problem, identify barriers to help seeking, and identify sources of help sought in the past year. Materials and Methods: All Operation Enduring Freedom and Operation Iraqi Freedom veterans and service members registered with a Midwestern VA Healthcare System between 2001 and 2007 received a letter requesting participation in an Internet-based survey. Participants completed nine questionnaires regarding their current physical and psychological health, social support, self-efficacy, public and self-stigma, and barriers to seeking help for a psychological problem. In addition, patterns of help seeking from informal (i.e., partner/spouse, family, friends) and formal (i.e., physician, psychiatrist, or psychologist, either from Veterans Affairs [VA] or the private sector) sources of help were examined. Results: Results from the linear regression model including all formal and informal sources of help indicated a significant model fit with attitudes toward psychotherapy, social support, and current mental health status as significant coefficients. Of note, attitudes toward psychotherapy were a significant coefficient in all help-seeking models; stigma was a significant coefficient with formal and VA sources, and social support was found to be a significant predictor with informal sources. Documentation of a mental health problem on one's record was found to be a significant barrier to help seeking and participants indicated they would most likely seek help in the next year from their partner/spouse, family, or friends versus formal VA or non-VA sources. Conclusions: This is one of the first studies to examine attitudes toward psychotherapy as contributing to help-seeking intentions of veterans and service members and results provide strong support for inclusion of this variable in future studies in addition to social support and stigma. Limitations of the study are discussed as well as suggestions for future research. It is our hope that findings from this study may inform administrators and providers regarding assessment, outreach, and program development for our country’s veterans and service members.
Predisposing personality traits and socio-familial factors of tendency toward substance use among soldiers

Source
Journal of Substance use 2017 22 (3) 310-316
Author(s)

Abstract
Military forces are among vulnerable groups to high-risk behaviors, especially substance use. Accordingly, this study aimed to investigate the role of personality traits and socio-familial factors in the prediction of risk of substance use among soldiers. A total of 309 soldiers doing military service in Tehran, Iran, were selected using convenience sampling, and completed measures included risk of substance use, personality traits, and social and familial risk/protective factors. Current results showed significant relationships between personality traits and socio-familial factors with tendency toward substance use. Moreover, linear regression analyses indicated that personality traits (i.e., conscientiousness and agreeableness), social factors (i.e., friends’ substance use and social disorganization), and familial factors (i.e., parents’ positive attitude toward substance use) were significantly associated with tendency toward smoking, drug use, and alcohol use in soldiers. Multimodal interventions targeting individual, familial, and social vulnerabilities may help reduce adjustment problems among Iranian soldiers.

A randomized controlled trial of a web-based, personalized normative feedback alcohol intervention for young-adult veterans

Source
Journal of Consulting and Clinical Psychology 2017 85 (5) 459-470
Author(s)

Abstract
Objective: Young-adult American veterans are at risk for problematic alcohol use. However, they are unlikely to seek care and may drop out from lengthy, multicomponent treatments when they do get care. This randomized controlled trial tested a very brief alcohol intervention delivered over the Internet to reach the population of young-adult veterans to help reduce their drinking. Method: Veterans (N = 784) were recruited from Facebook and randomized to either a control condition or a personalized normative feedback (PNF) intervention seeking to correct drinking perceptions of gender-specific veteran peers. Results: At immediate postintervention, PNF participants reported greater reductions in their perceptions of peer drinking and intentions to drink over the next month, compared with control participants. At 1-month follow-up, PNF participants reduced their drinking behavior and related consequences to a significantly greater extent than controls. Specifically, PNF participants drank 3.4 fewer drinks per week, consumed 0.4 fewer drinks per occasion, binge drank on 1.0 fewer days, and experienced about 1.0 fewer
consequences than control participants in the month after the intervention. Intervention effects for drinks per occasion were most pronounced among more problematic drinkers. Changes in perceived norms from baseline to 1-month follow-up mediated intervention efficacy. Conclusion: Though effects were assessed after only 1 month, findings have potential to inform broader, population-level programs designed for young veterans to prevent escalation of drinking and development of long-term alcohol problems. Given the simplicity of the PNF approach and ease of administration, this intervention has the potential for a substantial impact on public health. (PsycINFO Database Record (c) 2017 APA, all rights reserved); What is the public health significance of this article?

—The observed reductions in drinking and its consequences among PNF participants indicated that the PNF approach is feasible and appropriate for young-adult veterans not specifically searching for alcohol treatment. The program is sustained entirely on the Internet, uses limited time and personnel resources, and can be available anytime to veterans for personal use; even on mobile phones or tablets with Internet access.

2017 104 104

Reintegration of Military Nurse Veterans.

Source
Military Behavioral Health 2017 5 (2) 163-171
Author(s)
Stanton,M., and Houser,R.,

Abstract
This research focuses on how measures of mindfulness, spirituality, and storytelling affect the reintegration of 159 military nurses after service in a combat zone. Chief nurses of all branches of service forwarded a survey link to nurses who had served in Iraq or Afghanistan during Operation Iraqi Freedom or Operation Enduring Freedom. Data were analyzed using descriptive statistics and regression analyses. Findings suggest that spirituality, mindfulness, and storytelling strategies may mitigate the effects of war on deployed nurses. Nurses used a variety of strategies that made their time during deployment less stressful and their reintegration after deployment less traumatic.
Topic Avoidance about Deployment upon Reunion: Applying the Relational Turbulence Model.

Source
Military Behavioral Health 2017 5 (2) 117-128

Author(s)
Knobloch,L.K., and Theiss,J.A..

Abstract
This study uses the logic of the relational turbulence model to examine the reluctance of military couples to talk about their deployment experiences during reunion. A total of 235 individuals (117 returning service members, 118 at-home partners) completed an online survey within 6 months of homecoming. People experiencing more relational uncertainty and interference from a partner upon reunion reported more topic avoidance about deployment. Relational uncertainty and interference from a partner were especially strong predictors of topic avoidance about deployment for individuals who were highly satisfied with their relationship. The findings have implications for both theory and practice.

See also

Evidence of Objective Memory Impairments in Deployed Gulf War Veterans with Subjective Memory Complaints. Under Neurology.

Military Sexual Trauma Is Associated With Eating Disorders, While Combat Exposure Is Not. Under Sexual Trauma.

Psychological and Physical Health in Military Amputees During Rehabilitation: Secondary Analysis of a Randomized Controlled Trial. Under Rehabilitation.

Soldier background and postinvestigative events associated with timing of suicide following deployment of U.S. Army National Guard soldiers. Under Psychiatry.

Violent behavior among military reservists. Under Mental Health.
**PSYCHIATRY**

2017 104 106

**Psychiatric Aeromedical Evacuations: Clinical Characteristics of Deployed U.S. Military Personnel During Operation Iraqi Freedom.**

**Source**
Military Behavioral Health 2017 5 (2) 178-188

**Author(s)**
Baker,M.T., and Anderson,S.R.,.

**Abstract**
Data were collected from a subset of psychiatric aeromedical evacuation cases from combat theater. Demographic characteristics, the prevalence of posttraumatic stress disorder, and the presence of any prior mental health history were examined. This sample was predominantly male ages 21–30 years, enlisted, and active-duty service members in the U.S. Army. The most prevalent mental health diagnoses were anxiety and mood disorders. Participants scoring near the mean on the PTSD Checklist—Military Version were approximately three times more likely to report a positive mental health history compared with participants who did not endorse any items.

2017 104 107

**A psychiatrist's search for resilience.**

**Source**
Lancet 2017 389 (10079) 1599-1559

**Author(s)**
Jurecic,A., and Marchalik,D.,.

**Abstract**
Christine Montross wrote her first memoir, Body of Work: Meditations on Mortality from the Human Anatomy Lab, when she was still a medical student. In it she described the process of dissecting a cadaver with a poet's attention to detail and metaphor. When her female cadaver inexplicably lacked an umbilicus, for example, she and her lab partners named her Eve. Anatomy lab became for her, as for many medical students, an initiation into the complicated emotional work of being a doctor. She learned to contain her emotions without becoming indifferent.
Soldier background and postinvestigative events associated with timing of suicide following deployment of U.S. Army National Guard soldiers

Source
Military Psychology 2017 29 (3) 202-215
Author(s)
Griffith, J. and Bryan, C.J.

Abstract
The present study examined the timing of suicide and its associated soldier background and postinvestigative events among deployed Army National Guard (ARNG) soldiers from calendar years 2007 through 2014. Suicide deaths were nearly equally distributed between soldiers who had been deployed and those who had not. Among those deployed, however, suicides occurred mostly 1 year or more after having returned from deployment. Soldier background and postsuicide investigative events were associated with the timing of suicide. Having more years of military service, more previous deployments, and being married were associated with in-theater suicides. Soldiers younger in age (17–24 years), single, nonprior service, and lower in rank, in addition to having parent-family conflicts, full-time employment problems, and military transition problems were associated with suicides that had occurred 1–120 days and 120–365 days since return from deployment. Soldiers aged (24–29 years), married, and higher in rank, along with more reported problems including past behavioral health conditions, postdeployment behavior health referrals, criminal behaviors, and military performance were associated with suicides that had occurred 1 year or more after return. Findings likely represent time periods of suicide vulnerability for identifiable groups of soldiers, based on soldier background and events surrounding the suicide. Practical and theoretical implications of the findings are discussed.

See also

Predictors of PTSD 40 years after combat: Findings from the National Vietnam Veterans longitudinal study. Under Post Traumatic Stress Disorder.

Predisposing personality traits and socio-familial factors of tendency toward substance use among soldiers. Under Psychology.

Violent behavior among military reservists. Under Mental Health.
United States Public Health Service Nurses: Deployment in Global Crisis

Source
Online Journal of Issues in Nursing 2017 22 (2) 7-7

Author(s)
Brown-Stephenson,M.

Abstract
Nurses serving in the uniformed forces are often first responders to medical crises throughout the world. The U.S. Public Health Service Commissioned Corps is an elite team of full-time, well-trained, highly qualified public health professionals who respond to public health crises at home and abroad. This article briefly describes responsibilities and roles of nurses during deployments; offers an exemplar of deployment to West Africa for Ebola response; and reviews the outcomes of the response effort. The author then offers reflections about her deployment experiences.


Source
Military Medicine 2017 182 (5) e1749-e1756

Author(s)
Reaves,E.J., and Valle,R.,

Abstract
Background: Scientific publication in academic literature is a key venue in which the U.S. Department of Defense's Global Emerging Infections Surveillance and Response System (GEIS) program disseminates infectious disease surveillance data. Bibliometric analyses are tools to evaluate scientific productivity and impact of published research, yet are not routinely used for disease surveillance. Our objective was to incorporate bibliometric indicators to measure scientific productivity and impact of GEIS-funded infectious disease surveillance, and assess their utility in the management of the GEIS surveillance program. Methods: Metrics on GEIS program scientific publications, project funding, and countries of collaborating institutions from project years 2006 to 2012 were abstracted from annual reports and program databases and organized by the six surveillance priority focus areas: respiratory infections, gastrointestinal infections, febrile and vector-borne infections, antimicrobial resistance, sexually transmitted infections, and capacity building and outbreak response. Scientific productivity was defined as the number of scientific publications in peer-reviewed literature derived from GEIS-funded projects. Impact was defined as the number of citations of a GEIS-funded publication by other peer-reviewed publications, and the
Thomson Reuters 2-year journal impact factor. Indicators were retrieved from the Web of Science and Journal Citation Report. To determine the global network of international collaborations between GEIS partners, countries were organized by the locations of collaborating institutions. Results: Between 2006 and 2012, GEIS distributed approximately US $330 million to support 921 total projects. On average, GEIS funded 132 projects (range 96–160) with $47 million (range $43 million–$53 million), annually. The predominant surveillance focus areas were respiratory infections with 317 (34.4%) projects and $225 million, and febrile and vector-borne infections with 274 (29.8%) projects and $45 million. The number of annual respiratory infections-related projects peaked in 2006 and 2009. The number of febrile and vector-borne infections projects increased from 29 projects in 2006 to 58 in 2012. There were 651 articles published in 147 different peer-reviewed journals, with an average Thomson Reuters 2-year journal impact factor of 4.2 (range 0.3–53.5). On average, 93 articles were published per year (range 67–117) with $510,000 per publication. Febrile and vector-borne, respiratory, and gastrointestinal infections had 287, 167, and 73 articles published, respectively. Of the 651 articles published, 585 (89.9%) articles were cited at least once (range 1–1,045). Institutions from 90 countries located in all six World Health Organization regions collaborated with surveillance projects. Conclusions: These findings summarize the GEIS-funded surveillance portfolio between 2006 and 2012, and demonstrate the scientific productivity and impact of the program in each of the six disease surveillance priority focus areas. GEIS might benefit from further financial investment in both the febrile and vector-borne and sexually transmitted infections surveillance priority focus areas and increasing peer-reviewed publications of surveillance data derived from respiratory infections projects. Bibliometric indicators are useful to measure scientific productivity and impact in surveillance systems; and this methodology can be utilized as a management tool to assess future changes to GEIS surveillance priorities. Additional metrics should be developed when peer-reviewed literature is not used to disseminate noteworthy accomplishments.
RADIOLOGY

2017 104 111

Utilization of MRI for Cerebral White Matter Injury in a Hypobaric Swine Model—Validation of Technique.

Source
Military Medicine 2017 182 (5) e1757-e1764

Author(s)
McGuire,J.A., and Sherman,P.M.,

Abstract
Background: Repetitive hypobaric exposure in humans induces subcortical white matter change, observable on magnetic resonance imaging (MRI) and associated with cognitive impairment. Similar findings occur in traumatic brain injury (TBI). We are developing a swine MRI-driven model to understand the pathophysiology and to develop treatment interventions. Methods: Five miniature pigs (Sus scrofa domestica) were repetitively exposed to nonhypoxic hypobaria (30,000 feet/FIO2 100%/transcutaneous PO2 >90%) while under general anesthesia. Three pigs served as controls. Pre-exposure and postexposure MRIs were obtained that included structural sequences, dynamic contrast perfusion, and diffusion tensor quantification. Statistical comparison of individual subject and group change was performed utilizing a two-tailed t test. Findings: No structural imaging change was noted on T2-weighted or three-dimensional fluid-attenuated inversion recovery imaging between MRI 1 and MRI 2. No absolute difference in dynamic contrast perfusion was observed. A trend (p = 0.084) toward increase in interstitial extra-axonal fluid was noted. When individual subjects were examined, this trend toward increased extra-axonal fluid paralleled a decrease in contrast perfusion rate. Discussion/Impact/Recommendations: This study demonstrates high reproducibility of quantitative noninvasive MRI, suggesting MRI is an appropriate assessment tool for TBI and hypobaric-induced injury research in swine. The lack of fluid-attenuated inversion recovery change may be multifactorial and requires further investigation. A trend toward increased extra-axonal water content that negatively correlates with dynamic contrast perfusion implies generalized axonal injury was induced. This study suggests this is a potential model for hypobaric-induced injury as well as potentially other axonal injuries such as TBI in which similar subcortical white matter change occurs. Further development of this model is necessary.
REHABILITATION

2017 104 112

Hanging in There

Source
Pn 2017 71 (5) 30-34
Author(s)
Groth,J.

Abstract
The article features the life of Jerry Fesenmeyer, one of the oldest living members of Paralyzed Veterans of America (PVA). Fesenmeyer served in the U.S. Marine Corps and sustained injuries from a surprise attack from a Japanese sniper during World War II. He was using different wheelchairs since he became disabled. He was able to learn how to play wheelchair basketball and to drive his own car.

2017 104 113

Psychological and Physical Health in Military Amputees During Rehabilitation: Secondary Analysis of a Randomized Controlled Trial.

Source
Military Medicine 2017 182 (5) e1619-e1624
Author(s)
Talbot,L.A., and Brede,E,,

Abstract
Background: Service members who have experienced combat trauma with resulting amputation are at risk for compromised quality of life postamputation. Monitoring mental and physical health in amputees returning from the war is of paramount importance. This study examined changes in physical and mental health-related quality of life in service members following traumatic unilateral, transtibial amputation (TTA) during a 12-week period of rehabilitation before and after receiving a prosthesis. Method: This study is a secondary analysis from a randomized controlled trial (RCT) of military service members starting Military Amputee Rehabilitation Program (MARP) following a traumatic TTA. The study examined change in SF-36 Physical Component Summary (PCS) and Mental Component Summary (MCS) scores as two aspects of health-related quality of life. Forty-four injured service members, aged 19 to 46, were recruited into the RCT. Participants were randomized into 12 weeks of MARP plus home neuromuscular electrical stimulation therapy (n = 23) or MARP alone (N = 21) and compared at baseline, 6, and 12 weeks on: SF-36 PCS and MCS scores. Linear mixed models examined time and group differences and their interaction for the MCS and PCS scores. A multivariate mixed model tested whether MCS and PCS scores differed. Results: For the combined rehabilitation cohort, MCS did not differ over 12 weeks (p = 0.27) with scores at week 0 of M = 56.7 (SD = 11.9) and at week 12 of M = 52.7 (SD = 11.4), similar to healthy controls (age = 25–34, M = 51.0, SD = 7.6). Scores did not differ between treatment groups (p = 0.28) with no group by
time interaction (p = 0.34). The MCS significantly declined over time (p = 0.05) after adjustment for covariates. PCS improved over 12 weeks (p < 0.0001) in the total rehabilitation group with scores at week 0 of M = 34.0 (SD = 8.1) to M = 41.8 (SD = 8.4) at week 12, significantly lower than healthy controls (age = 25–34, M = 54.1, SD = 6.6). Scores did not differ between treatment groups (p = 0.89), and there was no group by time interaction (p = 0.34). An interaction between the PCS and MCS was observed such that the PCS improved over time, whereas the MCS did not significantly change (p = 0.0005). Discussion: War-injured transtibial amputees are at risk for compromised quality of life during rehabilitation. Self-perceived physical health improved as might be expected from rehabilitation. Self-perceived mental health did not. During rehabilitation, physical healing, psychological adjustment, and lifestyle adaptation are occurring simultaneously. However, more attention may need to be directed toward mental health during rehabilitation.

See also

**A preliminary investigation into the design of pressure cushions and their potential applications for forearm robotic orthoses.** Under Technology & Research.

**The Impact of Cigarette Smoking on the Formation of Heterotopic Ossification Among Service Members With a Traumatic Amputation.** Under Orthopaedics.

**Medial knee joint contact force in the intact limb during walking in recently ambulatory service members with unilateral limb loss: A cross-sectional study.** Under Rheumatology.
Chronic obstructive pulmonary disease in Scottish military veterans

Source
JRAMC Online Article May 2017

Author(s)
Bergamsn, B., Mackay, D., & Bell., JP.

Abstract
Introduction Smoking is a major risk factor for chronic obstructive pulmonary disease (COPD). Serving military personnel have previously been shown to be more likely to smoke, and to smoke more heavily, than civilians, but there is no clear consensus as to whether in later life, as veterans, they experience a higher prevalence and mortality from COPD than do non-veterans. We examined the risk of COPD in Scottish veterans and assessed the impact of changes in military smoking. Methods Retrospective 30-year cohort study of 56,205 veterans born 1945–1985, and 172,741 people with no record of military service, matched for age, sex and area of residence, using Cox proportional hazard models to examine the association between veteran status, birth cohort, length of service and risk of COPD resulting in hospitalisation or death. Results There were 1966 (3.52%) cases of COPD meeting the definition in veterans, compared with 5434 (3.19%) in non-veterans. The difference was statistically significant \( p=0.001 \) in the unadjusted model although it became non-significant after adjusting for deprivation. The highest risk was seen in the oldest (1945–1949) birth cohort and in veterans with the shortest service (Early Service Leavers). The risk was significantly reduced in veterans born from 1960, and in those with over 12 years’ service. Conclusions Our findings are consistent with falling rates of military smoking since the 1960s, and with the reduction in smoking with longer service. The oldest veterans, and those with the shortest service, are least likely to have benefited from this, as reflected in their higher risk for COPD.
Histological Diagnoses of Military Personnel Undergoing Lung Biopsy after Deployment to Southwest Asia.

Source
Lung 2017 ( ) 1-9
Author(s)

Abstract
Introduction: The current understanding of associations between lung disease and military deployment to Southwest Asia, including Iraq and Afghanistan, is both controversial and limited. We sought to clarify the relation between military deployment and biopsy-proven lung disease. Methods: Retrospective data were analyzed for military personnel with non-neoplastic lung biopsies evaluated at the Armed Forces Institute of Pathology or Joint Pathology Center (January 2005 to December 2012). Results: Of 391 subjects, 137 (35.0%) had deployed to Southwest Asia prior to biopsy. Compared to non-deployed subjects, those deployed were younger (median age 37 vs. 51 years) with higher representation of African Americans (30.0 vs. 16.9%). Deployed patients were more likely diagnosed with non-necrotizing granulomas (OR 2.4). Non-deployed subjects had higher frequency of idiopathic interstitial pneumonias, particularly organizing pneumonia. Prevalence of small airways diseases including constrictive bronchiolitis was low. Conclusions: This study provides a broader understanding of diversity of biopsy-proven non-neoplastic lung disease as it relates to military deployment to Southwest Asia and importantly did not show an increased prevalence of small airway disease to include constrictive bronchiolitis.


Source
Author(s)

Abstract
Rates of hospitalization and hospital days for respiratory infections among U.S. Air Force recruits by fiscal year, October 2010–February 2017, with associated preventive medicine interventions.
Medial knee joint contact force in the intact limb during walking in recently ambulatory service members with unilateral limb loss: A cross-sectional study.

Source
Peerj 2017 2017 (2) (pagination) Arte Number: e2960. ate of Pubaton: 2017

Author(s)

Abstract
Background. Individuals with unilateral lower limb amputation have a high risk of developing knee osteoarthritis (OA) in their intact limb as they age. This risk may be related to joint loading experienced earlier in life. We hypothesized that loading during walking would be greater in the intact limb of young US military service members with limb loss than in controls with no limb loss.

Methods. Cross-sectional instrumented gait analysis at self-selected walking speeds with a limb loss group (N = 10, age 27 +/- 5 years, 170 +/- 36 days since last surgery) including five service members with transtibial limb loss and five with transfemoral limb loss, all walking independently with their first prosthesis for approximately two months. Controls (N = 10, age 30 +/- 4 years) were service members with no overt demographical risk factors for knee OA. 3D inverse dynamics modeling was performed to calculate joint moments and medial knee joint contact forces (JCF) were calculated using a reduction-based musculoskeletal modeling method and expressed relative to body weight (BW). Results. Peak JCF and maximum JCF loading rate were significantly greater in limb loss (184% BW, 2,469% BW/s) vs. controls (157% BW, 1,985% BW/s), with large effect sizes. Results were robust to probabilistic perturbations to the knee model parameters. Discussion. Assuming these data are reflective of joint loading experienced in daily life, they support a "mechanical overloading" hypothesis for the risk of developing knee OA in the intact limb of limb loss subjects. Examination of the evolution of gait mechanics, joint loading, and joint health over time, as well as interventions to reduce load or strengthen the ability of the joint to withstand loads, is warranted.
Syphilis: an ancient disease in a modern era.

Source
Lancet 2017 389 (10078) 1492-1492

Author(s)
Lancet,.

Abstract
The first cases of syphilis in Europe were reported over 500 years ago in French soldiers invading Naples, Italy. Since then, the disease has been known by many names, including the great imitator, on account of its broad range of clinical manifestations in addition to genital lesions, and has been well described in the scientific and historical literature.
Contrasting Gender and Combat Versus Military Sexual Traumas: Psychiatric Symptom Severity and Morbidities in Treatment-Seeking Veterans

Source
Journal of Women's Health (2002) 2017 ( )
Author(s)

Abstract
Background: Military sexual trauma (MST) and military combat trauma (MCT) are significant risk factors for posttraumatic stress disorder (PTSD). However, no studies have directly contrasted the clinical profiles of Veterans between military-related traumas. Moreover, a notable gender difference in the likelihood of trauma exposure limits our ability to disentangle gender and trauma type. Materials and Methods: To address these gaps, we aimed at (1) contrasting psychiatric complaints in Veterans with MST versus MCT exposure and (2) investigating gender differences in Veterans with MST histories. Treatment-seeking Veterans (N = 563) completed semi-structured diagnostic interviews and self-report assessments of PTSD, depressive, and dissociative symptoms. Results: Psychiatric complaints and morbidity were notable after all military-associated traumas, although those seeking care for MST-related events demonstrated more severe PTSD, depressive, and dissociative symptoms and were more likely to meet criteria for non-PTSD anxiety and psychotic disorders. In contrast, few gender-related differences were noted between male and female Veterans with histories of MST. Conclusions: The experience of MST may reduce typically observed gender-related buffering effects for certain conditions.

Military Sexual Trauma Is Associated With Eating Disorders, While Combat Exposure Is Not

Source
Psychological Trauma: Theory, Research, Practice and Policy 2017 ( )
Author(s)
Breland, J.Y., Donalson, R., et al.

Abstract
Objective: There are strong associations among trauma and eating disorders. However, while trauma and eating disorders are more common among veterans than other populations, there is little information on how military-specific stressors affect eating disorder risk. This study's objective was to determine whether military sexual trauma and combat exposure were independent predictors of eating disorders among women veterans, a high-risk group. Method: Participants were women age 18-70, using VA medical
center services, without psychotic disorders or suicidal ideation (N = 407). We estimated a cross-sectional logistic regression model to predict eating disorders (anorexia, bulimia, binge eating disorder) as a function of military sexual trauma and combat exposure, adjusting for demographic variables. Results: Sixty-six percent of participants reported military sexual trauma, 32% reported combat exposure, and 15% met eating disorder criteria. Mean age was 49 years (SD = 13); 40% were veterans of color. Women reporting military sexual trauma had twice the odds of an eating disorder compared to women who did not (odds ratio OR: 2.03; 95% CI 1.03-3.98). Combat exposure was not associated with eating disorders. Asian race (OR: 3.36; 95% CI 1.26-8.97) and age (OR: 1.03; 95% CI 1.01-1.06) were associated with eating disorders. Conclusions: The high rates of military sexual trauma and eating disorders highlight a need for continued work. Results suggest that it may be useful to focus on women reporting military sexual trauma when implementing eating disorder screening and treatment programs. Given associations among trauma, eating disorders, obesity, and mortality, such efforts could greatly improve veteran health.

2017 104 121

No Mission Too Difficult: Responding to Military Sexual Assault

Source
American Journal of Public Health 2017 107 (5) 642-644
Author(s)
Kimerling,R.

Abstract
An introduction is presented in which the author discusses a report in the issue which deals with sexual assaults against U.S. female military personnel, and it mentions mental health treatment, the career consequences military sexual assaults, and the mental health of sexually abused women.

2017 104 122

Patient-Centered Perioperative Care for a Victim of Military Sexual Trauma.

Source
Military Medicine 2017 182 (5) e1807-e1811
Author(s)
Hickey,T.R., and Kirwin,P.D.,

Abstract
Introduction: The patient population seen in our nation's Veterans Affairs Healthcare system is increasingly female and an alarming percentage of our veterans, male and female alike, report a history of military sexual trauma (MST), which is associated with an increased burden of morbidities including post-traumatic stress disorder (PTSD) and substance abuse. The experience of surgery can produce symptoms of PTSD in a clinically significant percentage of patients. This article describes the challenges of achieving a patient-centered perioperative care plan in the case of a female
veteran who suffers from PTSD as a result of MST. Methods: We provide a brief background on the changing demographics of our nation's veterans, a review of MST and patient-centered care, and a description of the interdisciplinary care plan created and implemented for our patient. We note how this care model employs key elements of the Perioperative Surgical Home Model as developed by the American Society of Anesthesiologists. Finally, we propose an agenda for improving perioperative care for this group of veterans. No institutional review board was required for this case report-based discussion. Results: The patient-centered care plan developed and implemented by an interdisciplinary team was well received by the patient and enabled her to comply with her postsurgical physical therapy. This recent interdisciplinary experience was in stark contrast to her experience of former surgical procedures, and produced much higher patient satisfaction. Conclusion: Improvements are needed in patient-centered perioperative care for victims of MST, both within the Veterans Affairs system and in the larger health care system. We suggest an agenda to improve care for these patients including: (1) increasing provider awareness and education about MST and about the potential psychological trauma of surgery per se, (2) employing elements of the Perioperative Surgical Home to encourage patient-centered care involving collaboration within an interdisciplinary team, (3) and measurement of patient centered outcomes. Perioperative care for the victim of MST is heretofore not addressed in the literature. We hope this case report and review will stimulate further research into optimizing care for these vulnerable patients.

Sexual Assault Victimization and Mental Health Treatment, Suicide Attempts, and Career Outcomes Among Women in the US Army

Source
American Journal of Public Health 2017 107 (5) 732-739

Author(s)

Abstract
Objectives: To examine associations of administratively recorded sexual assault victimization during military service with subsequent mental health and negative career outcomes among US Army women controlling for nonrandom victimization exposure.; Methods: We used data from the Army Study to Assess Risk and Resilience in Servicemembers to apply propensity score methods to match all 4238 female Regular Army soldiers with administratively recorded sexual assault victimization during 2004 to 2009 to 5 controls per case with similar composite victimization risk. We examined associations of this victimization measure with administratively recorded mental health treatment, suicide attempt, and Army career outcomes over the subsequent 12 months by using survival analysis for dichotomous outcomes and conditional generalized linear models for continuous outcomes.; Results: Women with administratively recorded sexual assault had significantly elevated odds ratios (ORs) of subsequent mental health treatment (any, OR = 2.5; 95% confidence interval CI] = 2.4, 2.6; specialty, OR = 3.1; 95% CI = 2.9, 3.3; inpatient, OR = 2.8; 95% CI = 2.5, 3.1), posttraumatic stress disorder treatment (any, OR = 6.3; 95% CI = 5.7, 6.9; specialty, OR = 7.7; 95%
CI = 6.8, 8.6; inpatient, OR = 6.8; 95% CI = 5.4, 8.6), suicide attempt (OR = 3.0; 95% CI = 2.5, 3.6), demotion (OR = 2.1; 95% CI = 1.9, 2.3), and attrition (OR = 1.2; 95% CI = 1.1, 1.2); Conclusions: Sexual assault victimization is associated with considerable suffering and likely decreased force readiness.
See also

Lumbar spine postures in marines during simulated operational positions. Under Orthopaedics.
Development, implementation, and evaluation of a sleep coaching program for the German armed forces: An Overview.

Source
Somnologie 2017 ( ) 1-8

Author(s)
DankeHopfe H., Kowalski J., et al.

Abstract
Background: The prevalence of sleep problems in soldiers is higher than in the general population and impaired sleep prior to deployment increases the risk for developing new mental disorders after return from deployment. To prevent development of sleep disorders and concomitant psychiatric problems, early preventive strategies provided within occupational health management (OHM) programs are needed. Objective: A sleep coaching program was developed and evaluated and is currently implemented as a preventive tool to improve sleep quality in the German armed forces. A four-step approach to development, evaluation, and dissemination of sleep coaching is presented. Methods: In a first step, a sleep coaching program was developed and offered in a pilot phase of the OHM program of the German armed forces. In a next step, the sleep coaching program was comprehensively evaluated by ambulatory polysomnography and sleep-related questionnaires in a crossover waiting list study. In a third step, psychologists of the German armed forces will be trained to provide the sleep coaching program within the OHM program. The last step comprises development of an internet-based sleep coaching program to improve accessibility and availability. Results: Sleep coaching is an effective tool for improving sleep quality in military personnel. In a pilot phase, measures of wellbeing, self-care behavior, and self-care awareness were positively influenced in participants of the sleep coaching program. In a second study, objective and subjective sleep quality improved significantly after participating in the sleep coaching program. Conclusion: Sleep coaching is a preventive intervention method to improve sleep quality and increase health resilience by providing helpful strategies in case of (subjectively) impaired sleep.
The effect of continuous positive airway pressure on post-traumatic stress disorder symptoms in veterans with post-traumatic stress disorder and obstructive sleep apnea: A prospective study

Source
Sleep Medicine 2017 33 ( ) 145-150

Author(s)

Abstract
Objectives: Previous retrospective studies have shown that continuous positive airway pressure (CPAP) exerts salutary effect on post-traumatic stress disorder (PTSD) symptoms and nightmare distress. The relative magnitude of therapeutic benefits from CPAP and the strength of associations between duration of CPAP use and PTSD symptomatology are unknown. Methods: A prospective cohort design involving 47 combat veterans with PTSD and documented obstructive sleep apnea (OSA) by overnight polysomnography. Epworth Sleepiness Scale (ESS) score, PTSD checklist-Military (PCL-M), Nightmare Distress Questionnaire (NDQ), and Nightmare Frequency Questionnaire (NFQ) were administered at baseline and 3 months after CPAP therapy. Objective adherence was assessed at the 3-month follow-up. Results: Twenty-two veterans with mild-to-moderate PTSD (PCL-M score 17–59) and 18 with severe-to-very-severe PTSD (PCL-M score 60–85) completed the study. There was a dose-dependent response of PCL-M to duration of CPAP usage (r = 0.45; p = 0.003). Veterans with severe-to-very-severe PTSD had a larger improvement in PTSD symptoms (d = 0.65; p = 0.004) compared with those with mild-to-moderate PTSD (d = 0.47; p = 0.04). CPAP usage was the only significant predictor of overall subjective improvement in PTSD symptoms (OR 10.5; p = 0.01). Significant changes in NDQ and NFQ scores following 3 months of treatment were observed in veterans adherent to CPAP, but the correlations with duration of CPAP use were not statistically significant (r = 0.24; p = 0.13 and r = 0.13; p = 0.4, respectively). Conclusions: Improvement of PTSD symptoms in veterans with OSA was more pronounced with prolonged use of CPAP. Adherence to treatment was linked to abatement in nightmare distress and frequency. Future investigation of multimodal treatment, including behavioral intervention combined with CPAP, is warranted.
Sleep disturbances among combat military veterans: A comparative study using subjective and objective sleep assessments

Source
Military Psychology 2017 29 (3) 189-201

Author(s)

Abstract
The sleep characteristics of 37 military veterans and active-duty service members (17 with PTSD and 20 without PTSD) of recent wars were analyzed to determine if combat deployment, with its associated sleep restriction, may be an alternative explanation for the sleep complaints found among combat veterans with PTSD (as determined by PTSD Checklist Military Version scores). Over a 1-week period, sleep data were collected using sleep actigraphy and self-report. Across the entire sample, subjective and objective assessment methods of sleep were strongly correlated, although there were some notable within-group differences. Specifically, although sleep duration between groups did not differ based on actigraphy, veterans without PTSD reported sleeping 1 h and 11 min (p = .002) longer than did veterans with PTSD. In an effort to determine why individuals without PTSD might be overreporting sleep, we found that symptoms of emotional arousal (anger, anxiety, and nightmares) were significantly correlated with self-reported sleep duration, suggesting a pattern of higher autonomic arousal found in veterans with PTSD. Thus, although sleeping for 6 h, the higher levels of emotional arousal reported by veterans with PTSD may mean that they do not perceive their sleep as restful. Further research is necessary to determine if the sleep architecture of veterans with PTSD is actually different from that of combat veterans without PTSD and if such differences are actually amenable to standard behavioral treatments for this disorder.

See also

Influence of a 12.8-km military load carriage activity on lower limb gait mechanics and muscle activity

Source
Ergonomics 2017 60 (5) 649-656

Author(s)
Rice,H., Fallowfield,J., et al.

Abstract
The high stress fracture occurrence in military populations has been associated with frequent load carriage activities. This study aimed to assess the influence of load carriage and of completing a load carriage training activity on gait characteristics. Thirty-two Royal Marine recruits completed a 12.8-km load carriage activity as part of their military training. Data were collected during walking in military boots, pre and post-activity, with and without the additional load (35.5 kg). Ground contact time, lower limb sagittal plane kinematics and kinetics, and electromyographic variables were obtained for each condition. When carrying load, there was increased ground contact time, increased joint flexion and joint moments, and increased plantar flexor and knee extensor muscle activity. Post-activity, there were no changes to kinematic variables, knee extensor moments were reduced, and there was evidence of plantar flexor muscle fatigue. The observed gait changes may be associated with stress fracture development. Practitioner Summary: This study identified gait changes due to load carriage and after a military load carriage training activity. Such activities are associated with lower limb stress fractures. A pre–post study design was used. Gait mechanics changed to a greater extent when carrying load, than after completion of the activity when assessed without load.
Medical Students and International Exchanges: An Underappreciated Aspect of Global Surgery.

Source
Military Medicine 2017 182 (5) 1566-1567
Author(s)
Welling,D., and Villavicencio,L.,

Abstract
The global burden of surgical diseases is growing, and is not being adequately addressed. As a result, Global Surgery is suddenly in the public eye; it is fashionable to establish international electives for students and residents, and to bring foreign students to our hospitals for experiences in the United States. The Department of Surgery at the Uniformed Services of the Health Sciences (USUHS) continues to be very supportive of global surgical exchanges. It is important to highlight efforts to send uniformed medical students to foreign countries for clinical rotations and encourage future expansion of such efforts.

See also


Being Prepared for the Next Conflict: A Case Analysis of a Military Level I Trauma Center. Under Trauma Medicine.
Developing a peer support protocol for improving veterans’ engagement to computer-delivered cognitive behavioural therapy

Source
Behavioural and Cognitive Psychotherapy 2017 45 (3) 253-265

Author(s)

Abstract
Background: Computer-delivered cognitive behavioural therapy (cCBT) is an effective alternative to provider-delivered treatment for depression and anxiety, but high attrition poses a significant challenge to its use. Peer support is a feasible approach to improving cCBT engagement, but less is known about its acceptability among Veterans. Aims: To obtain feedback from Veterans (n = 24) with depression and/or anxiety on their preferences for (a) activities of Veterans Administration Peer Support Specialists (VA PSS) in helping Veterans use Moving Forward, a cCBT-based protocol developed by VA, and (b) methods for delivering support to Veterans using this programme. Method: Four focus groups (5–7 Veterans per group) provided feedback to be used in the development of a peer-supported engagement intervention to help Veterans with depression and anxiety use Moving Forward. Content areas included roles that a VA PSS might play in supporting the use of and engagement in Moving Forward, as well as methods of delivering that support. Results: Veteran preferences for PSS activity focused on practical aspects of using Moving Forward, including orientation to the programme, technical support, and monitoring progress. Feedback also suggested that Veterans preferred more personal roles for the PSS, including emotional support, as well as application of Moving Forward to ‘real life’ problems. Conclusions: The findings extend the literature on online, patient-facing mental health protocols by identifying emotional support and ‘real life’ skills application as Veteran-preferred components of a peer-support protocol designed to enhance use of and engagement in cCBT for depression and anxiety.
2017 104 130

E-training program for sterilization in isolated military operations areas: Solution adopted by the french army.

Source
Author(s)

Abstract
French Army Health Service provides medical support for armed forces deployed on external missions. In order to ensure the same health care quality in the theatre and in the metropolis, the Military Health Service provides sterilization of reusable medical devices by its own means. Army pharmacists carrying out an on-site mission comes from different domains: medical biology laboratory, research, medical supplies, hospital pharmacy or yet pharmaceutical laboratory for some reservists. Training program for sterilization in isolated military operations areas is therefore necessary in order to ensure knowledge uniformity. Our study is organized in two parts: determination of the needs and of the adapted training modalities, then implementation of training itself. This training should be accessible to a geographically dispersed public whose levels of expertise in sterilization are disparate. The module < > carried out allows to update and standardize the knowledge of the deployed pharmacists. It is composed of 11 sub-modules covering the different aspects of sterilization during external missions. Assessment using multiple-choice questions (MCQ) is necessary to check the level of knowledge and to understanding at the end of the training. A 75% good response rate is requested to validate the training. Training content has been approved by the National referents for sterilization and it is already available on the e-learning platform of the Ecole du Val de Grace.

2017 104 131

Implementation of the Neurology Resident Handbook Mobile Application Improves Patient Care.

Source
Military Medicine 2017 182 (5) 1581-1581
Author(s)
Holtkamp,M.D., and Eye,P.,

Abstract
Mobile technology appears everywhere in modern culture. Mobile applications (apps) have become the preferred method of communication and of obtaining information. This app revolution has coursed into medicine and medical education. Residents at most hospitals are given a physical handbook with essential contact information, hospital specific procedural algorithms, and evidence-based medical information.
A preliminary investigation into the design of pressure cushions and their potential applications for forearm robotic orthoses.

Source
BioMedical Engineering Online 2017 16 (1) (pagination) Arte Number: 54. ate of Pubaton: 08 May 2017
Author(s)
Alavi N., Zampierin S., et al.

Abstract
Background: Load cells are often used in rehabilitation robotics to monitor human-robot interaction. While load cells are accurate and suitable for the stationary end-point robots used in rehabilitation hospitals, their cost and inability to conform to the shape of the body hinder their application in developing affordable and wearable robotic orthoses for assisting individuals in the activities of daily living. This exploratory work investigates the possibility of using an alternative technology, namely compliant polymeric air cushions, to measure interaction forces between the user and a wearable rigid structure.

Methods: A polymeric air cushion was designed, analyzed using a finite element model (FEM), and tested using a bench-top characterization system. The cushions underwent repeatability testing, and signal delay testing from a step response while increasing the length of the cushion's tubes. Subsequently, a 3D printed wrist brace prototype was integrated with six polymeric air cushions and tested in static conditions where a volunteer exerted isometric pronation/supination torque and forces in vertical and horizontal directions. The load measured by integrating data recorded by the six sensors was compared with force data measured by a high quality load cell and torque sensor. Results: The FEM and experimental data comparison was within the error bounds of the external differential pressure sensor used to monitor the pressure inside the cushion. The ratio obtained experimentally between the pressure inside the pressure cushion and the 8 N applied load deviated by only 1.28% from the FEM. A drift smaller than 1% was observed over 10 cycles. The rise times of the cushion under an 8 N step response for a 0.46, 1.03, and 2.02 m length tube was 0.45, 0.39, and 0.37 s. Tests with the wrist brace showed a moderate root mean square error (RMSE) between the force estimated by the pressure cushions and the external load cells. Specifically, the RMSE was 13 mNm, 500 mN, and 1.24 N for forearm pronation/supination torque, vertical force, and horizontal force, respectively.

Conclusions: The use of compliant pressure cushions was shown to be promising for monitoring interaction forces between the forearm and a rigid brace. This work lays the foundation for the future design of an array of pressure cushions for robotic orthoses. Future research should also investigate the compatibility of these polymeric cushions for data acquisition during functional magnetic resonance imaging in shielded rooms.

Source
Military Medicine 2017 182 (5) e1696-e1701

Author(s)
Lin, A.H., and Welstead, B.L.,

Abstract
Background: Health Experts onLine at Portsmouth (HELP) is a web-based teleconsultation system launched in June 2014 to facilitate communication between specialists at Naval Medical Center Portsmouth and providers assigned to both the fleet forces and primary care clinics across the eastern United States, Europe, and the Middle East. Specialist consultations through the HELP system purport to improve access to care for patients who otherwise might be referred to the civilian network or medically evacuated (MEDEVACed) to Naval Medical Center Portsmouth for specialized care. If HELP-facilitated communications help avoid civilian referrals or MEDEVACs, the associated costs of that care should be reduced. Methods: We evaluated cost savings associated with prevented MEDEVACs by analyzing both tangible savings (prevented costs of flights, per diems, and consults) and intangible savings (reduced lost productivity time). We compared these savings to the costs of maintaining and utilizing the HELP system: startup costs, administrative costs, and provider time costs. We used patient and provider data from the HELP database to evaluate clinical consult cases. Before this analysis, a panel of 3 physicians associated with HELP reviewed each consult to determine whether a case qualified as a prevented MEDEVAC. Data from the Military Health System (MHS) Management and Analysis Reporting Tool and the MHS Data Repository were used to estimate costs associated with provider time, patient time, and direct care medical encounters. Findings: The HELP program delivered measurable, positive returns on investment (ROIs) between June 2014 and December 2015. In that time frame, 559 consult cases occurred in the HELP system. Of the 559 total consult cases, 50 consults prevented MEDEVACs. Incorporating only tangible savings, HELP produced an 80% ROI on the basis of prevented medical evacuations; the addition of intangible savings such as reduced lost productivity increased the ROI to 250%. The dollar values of these savings were $693,461 and $1,337,628, respectively. Impact: The HELP program produces considerable savings (both tangible and intangible) to the Military Healthcare System for small costs. It does this both by increasing access to care at previously inaccessibly remote medical treatment facilities and by consequently decreasing the forward provider's reliance on medical evacuation in questionable cases. This positive ROI was potentially underestimated as this analysis did not account for recapture of care that would otherwise have been sent to the civilian market. On the basis of this analysis, a low bandwidth, asynchronous, and internet accessible teleconsultation system is both a feasible and effective means of projecting quality care forward into the deployed setting. Future implementation of similar initiatives throughout the MHS can be expected, and will likely draw from the lessons learned during the successful implementation and execution of the HELP system.
The Situation Awareness Weighted Network (SAWN) model and method: Theory and application

Source
Applied Ergonomics 2017 61 ( ) 178-196
Author(s)

Abstract
We introduce a novel model and associated data collection method to examine how a distributed organisation of military staff who feed a Common Operating Picture (COP) generates Situation Awareness (SA), a critical component in organisational performance. The proposed empirically derived Situation Awareness Weighted Network (SAWN) model draws on two scientific models of SA, by Endsley involving perception, comprehension and projection, and by Stanton et al. positing that SA exists across a social and semantic network of people and information objects in activities connected across a set of tasks. The output of SAWN is a representation as a weighted semi-bipartite network of the interaction between people (‘human nodes’) and information artefacts such as documents and system displays (‘product nodes’); link weights represent the Endsley levels of SA that individuals acquire from or provide to information objects and other individuals. The SAWN method is illustrated with aggregated empirical data from a case study of Australian military staff undertaking their work during two very different scenarios, during steady-state operations and in a crisis threat context. A key outcome of analysis of the weighted networks is that we are able to quantify flow of SA through an organisation as staff seek to "value-add" in the conduct of their work.

See also
A randomized controlled trial of a web-based, personalized normative feedback alcohol intervention for young-adult veterans. Under Psychology.


Being Prepared for the Next Conflict: A Case Analysis of a Military Level I Trauma Center.

Source
Military Medicine 2017 182 (5) e1681-e1687
Author(s)
Roberts,H., and Osborn,P.,

Abstract
Background: As we transition to an interwar period, combat-related injuries are at their lowest levels in over a decade, yet we must continue to maintain our surgical skills and train new surgeons. During the recent wars, the importance of the treatment and care for amputations and complex extremity injuries became apparent. This study compares the number of these procedures performed during the treatment of civilian and military orthopaedic trauma patients at a Department of Defense Level I trauma center over the past 9 years. The need to evaluate this unique system is further highlighted by the recent recommendation from the National Academies of Sciences, Engineering, and Medicine’s to combine civilian and military trauma systems. Methods: Data derived through a retrospective review of electronic health records were charted and evaluated for statistically unique periods. Results: There were significant fluctuations in the number of procedures performed within the military cohort, with peaks centered around 2007 and 2011–2012, whereas the number of civilian cases remained relatively steady. On average, the civilian cohort also produced a more consistent and greater number of tibia fractures than the military cohort. For the past 3 years, the civilian cohort has produced 22 more tibia fractures per quarter than the military cohort. Furthermore, although type III open tibia fractures were the most common classification within the military cohort, the civilian cohort provided comparable numbers of type III open fractures despite only being the second most common fracture classification in the civilian cohort. In fact, the civilian volume outpaced the military cohort the past 3 years in this metric. More importantly, the military cohort produced 6 type III fractures in 2013, and 3 in 2014, whereas the civilian cohort produced 14 and 25, respectively, during those years. Discussion/Impact/Recommendations: Fluctuations in the military cohort's data mirrors surges in operational activity, whereas the civilian cohort demonstrates a higher and more predictable number of tibia fractures; with reliability and numbers being important factors in training new surgeons and maintaining surgical skills. Although this study focused on specific orthopaedic trauma cases deemed essential to combat casualty care, it highlights the universal reality facing U.S. Military Medicine: as combat trauma continues to decline, military medicine as a whole will have to look elsewhere for critical trauma experience. This study confirmed military case volumes fluctuate with operational demands and evaluated one method of supplementing the declining combat trauma volumes with a local civilian trauma mission. This indicates not only the need for a system that is able to quickly adapt to the increased patient load, but also depicts how little reliability there is within the system in terms of perpetuating physician experience when the civilian trauma mission is not considered.
Deep and profound hypothermia in haemorrhagic shock, friend or foe?
A systematic review

Source
JRAMC Online article 11 May 2017

Author(s)
Samuel E Moffatt, S J B Mitchell and J L Walke

Abstract
Introduction Survival in exsanguinating cardiac arrest patients is poor, as is neurological outcome in survivors. Hypothermia has traditionally been seen as harmful to trauma patients and associated with increased mortality; however, there has been speculation that cooling to very low temperatures (≤20°C) could be used to treat haemorrhagic trauma patients by the induction of a suspended animation period through extreme cooling, which improves survival and preserves neurological function. This has been termed emergency preservation and resuscitation (EPR). Methods A systematic review of the literature was used to examine the evidence base behind the use of deep and profound hypothermia in haemorrhagic shock (HS). It included original research articles (human or animal) with cooling to ≤20°C after HS or an experimental model replicating it. Normovolaemic cardiac arrest, central nervous system injury and non-HS models were excluded. Results. Twenty articles using 456 animal subjects were included, in which 327 were cooled to ≤20°C. All studies describing good survival rates were possible using EPR and 19/20 demonstrated that EPR can preserve neurological function after prolonged periods of circulatory arrest or minimal circulatory flow. This additional period can be used for surgical intervention to arrest haemorrhage in HS that would otherwise be lethal. Conclusions The outcomes of this review have significant implications for application to human patients and the ongoing human clinical trial (EPR for Cardiac Arrest from Trauma). Current evidence suggests that hypothermia ≤20°C used in the form of EPR could be beneficial to the HS patient.

Military Resuscitation: Lessons from Recent Battlefield Experience.

Source
Current Trauma Reports 2017 ( ) 1-8

Author(s)
Davis B.L., Martin M.J., et al.

Abstract
Purpose of Review: This review will discuss the current methods employed in military trauma systems to care for combat casualties, with emphasis on what is referred to in NATO doctrine as "Role 1" and "Role 2" medical support—that is, care of the war-injured patient at the point of injury and, slightly further "upstream" in the trauma system in a forward, mobile trauma system. Recent Findings: Tactical Combat Casualty Care is continuously updated by the Joint Trauma System in a rigorous manner. New technologies and procedures are constantly being investigated and adapted to the tactical demands of the battlefield. The most significant recent developments are the introduction of tranexamic acid, the advent of 1:1:1 blood product therapy, widespread use of tourniquets, and lyophilized or “freeze-dried” plasma to overcome the barriers
inherent in frozen plasma. Summary: Current doctrine in military medicine is the ultimate expression of damage control resuscitation. Realities of the modern battlefield often necessitate novel approaches to care that emphasize mobility over robustness and temporizing measures over definitive. While these methods would perhaps seem suboptimal to the civilian trauma surgeon, the preventable mortality in the recent conflicts in Iraq and Afghanistan was lower than for any other modern war [1], and fell after the lessons of the early phases of the wars lead to development of the prehospital guidelines developed by the Committee on Tactical Combat Casualty Care (TCCC), now overseen by the Joint Trauma System (JTS) [2, 3]. The JTS oversees the delivery of trauma care to war-wounded personnel from point of injury to convalescence in the continental USA. It regularly updates its clinical practice guidelines [3]. Controlling hemorrhage, the primary cause of preventable battlefield deaths (>80%) [4, 5] is the primary goal in TCCC and the JTS. Far from being applicable only to combat trauma, the lessons learned in the recent wars have tangible benefits in disaster response and mass civilian trauma, particularly in this age of seemingly random mass shootings in the US and assorted terror attacks in Europe and throughout the world. This review will describe the system in which the US Armed Forces delivers care to patients injured on the modern battlefield, the tenants that guide that care, and the scientific basis for the most current developments in the field.

2017 104 138

A National Trauma Care System: Integrating Military and Civilian Trauma Systems to Achieve Zero Preventable Deaths After Injury.

Source
Military Medicine 2017 182 (5) 1563-1565

Author(s)
N.K.

Abstract
Without question, there were lifesaving advancements made in the trauma care of wounded service men and women during our wars in Iraq and Afghanistan. The National Academies report described in this summary was requested by several federal agencies and organizations to identify ways to maintain that expertise and it describes more effective ways to integrate military and civilian trauma care systems for research, training, and actual trauma care. The report emphasizes the importance of prehospital care as a major focus for further improvement. The committee estimates that up to 20% of U.S. trauma deaths could be prevented if improved trauma care systems
were in place. Thus, this study has relevance not only for trauma care professionals but to all of us, military and civilian alike.

2017 104 139

Perceived ability to cope with trauma among U.S. Combat veterans

Source
Military Psychology 2017 29 (3) 165-176

Author(s)
Bartholomew, T.T., Badura-Brack, A., et al.

Abstract
The Perceived Ability to Cope With Trauma (PACT) scale measures perceived forward-focused and trauma-focused coping. This measure may also have significant utility measuring positive adaption to life-threatening trauma, such as combat. Our objective was to examine perceived ability to cope with trauma, as measured by the PACT, and the relationships between this perceived ability and clinically pertinent information (anxiety, depression, posttraumatic stress disorder PTSD) among U.S. military veterans. Data were provided from 71 combat veterans, consisting of 47 veterans with PTSD and 24 veterans without PTSD who had subthreshold symptoms of the disorder. All veterans completed standardized clinical interviews as well as a battery of well-validated self-report symptom measures. We found that veterans with PTSD had significantly lower PACT scores than veterans without PTSD; those without PTSD self-reported more ability to engage in forward-focused and trauma-focused coping than those with PTSD. Importantly, we also showed relationships between the PACT scores and indices of psychological difficulties as both Forward Focus and Trauma Focus coping scores negatively correlated with PTSD, depression, anxiety, and alexithymia. Finally, the Forward Focus PACT scale improved prediction of PTSD severity over combat exposure alone. The PACT, especially the Forward Focus scale, appears to be a useful measure of perceived positive coping ability with trauma in combat-exposed veterans who report symptoms of traumatic stress, extending the utility of the measure from normative to clinical populations. The importance of adopting forward-focused coping is discussed.

2017 104 140

Prehospital transfer strategies and tranexamic acid during major trauma.

Source
Lancet 2017 389 (10079) 1604-1604

Author(s)
La Rochelle, P.,

Abstract
The overall effect on mortality and morbidity from prehospital transfer strategies has been a strongly debated topic for more than two decades. A 2015 systematic review 1 on this issue only identified observational studies and most were retrospective. The latest period covered by this set of studies was up to 2010. 19 studies targeted major trauma from which five studies
(three retrospective, one prospective, and one mixed) including 19 910 patients with adjusted outcomes compared initial triage with specialised centres and non-specialised centres.

2017 104 141

Urinary Biomarkers are Associated with Severity and Mechanism of Injury

Source
Shock (Augusta, Ga.) 2017 47 (5) 593-598

Author(s)
Janak, J.C., Stewart, I.J., et al.

Abstract
Combat-related blast trauma results in massive tissue injury and tends to involve multiple systems. Further, an acute measure of injury severity based on underlying biological mechanisms may be important for the triage and treatment of these types of patients. We hypothesized that urinary biomarkers (UBs) would reflect severity of injury and that they would be elevated for blast injuries compared with gunshot wounds (GSW) in a cohort of combat casualties. We also postulated that UBs would be higher in patients with burns compared with patients with non-burn trauma in a civilian cohort. Among 80 service members who sustained combat-related injuries, we performed generalized estimating equations to compare differences in log-transformed concentrations of the UBs by both injury severity and injury mechanism. Among 22 civilian patients, we performed Kruskal-Wallis tests to compare differences for the UBs stratified by burn and non-burn trauma. In the military cohort, with the exception of IL-18, all UBs were significantly (P<0.05) higher for patients with a severe combat-related injury (Injury Severity Score ≥25). In addition, all crude UBs concentrations were significantly higher for blast versus GSW patients (P<0.05). After adjusting for injury severity score and time of UB draw, KIM-1 (2.80 vs. 2.31; P=0.03) and LFABP (-1.11 vs. -1.92; P=0.02) were significantly higher for patients with a blast mechanism of injury. There were no significant differences in UBs between burn and non-burn civilian trauma patients. Future studies are needed to understand the physiologic response to trauma and the extent that UBs reflect these underlying processes.

See also

Acute Acoustic Trauma among Soldiers during an Intense Combat, Under Otolaryngology.

TRAUMATIC BRAIN INJURY

See Under


Offline: The new neglected (non-tropical) diseases.

Source
Lancet 2017 389 (10080) 1682-1682

Author(s)
Horton,R.,

Abstract
Neglected tropical diseases (NTDs) are no longer neglected, according to the WHO. "Record-breaking progress" over the past decade has brought diseases such as African trypanosomiasis and lymphatic filariasis “to their knees”. The campaign to defeat NTDs has been “one of the most effective global partnerships in modern public health”, says WHO Director-General Margaret Chan. WHO calls these successes “a rags-to-riches story”. So if NTDs are no longer neglected, what are today’s neglected diseases? One answer must be the noncommunicable diseases (NCDs). And the neglected of neglected is kidney disease.

Source
Military Medicine 2017 182 (5) e1775-e1781

Author(s)
Lindaman, L.A., and Pilsner, J.R.,

Abstract
Background: There is little research investigating exposures that occurred during war or conflict and the resulting influence on semen quality. We examined the associations between military service and semen quality among U.S. Veterans of Operation Enduring Freedom, Operation Iraqi Freedom, and Operational New Dawn. Methods: U.S. Veterans (n = 714), who sought fertility treatment and were participants of the Department of Veterans Affairs Women Veterans Cohort Study were included in the current study. Semen quality parameters (semen volume, total sperm count, sperm concentration, and percentage of total motile sperm) measured at fertility clinics in Veterans Affairs Healthcare System were analyzed. Findings: The median values of Veterans were 2.7 mL for semen volume, 55.3 × 10⁶ for total sperm count, 22.0 × 10⁶/mL for sperm concentration, and 55% for total motile sperm. No significant differences among Veterans were found between military-specific variables evaluated and sperm quality. In multivariate models, Veterans ≥46 years of age had lower semen volume (β = −0.10 ± 0.05; p < 0.05) and lower percent total motile sperm (β = −18.45 ± 7.0; p = 0.009) than Veterans 18 to 25 years of age. Black and Hispanic Veterans had lower sperm concentrations as compared to White Veterans (β = −0.17 ± 0.07; p = 0.01 and β = −0.20 ± 0.06; p < 0.001, respectively). Finally, Veterans diagnosed with post-traumatic stress disorder or major depression had lower total sperm motility (β = −0.10 ± 0.03; p = 0.004 and β = −0.09 ± 0.04; p < 0.05, respectively). Discussion: Veterans who were older, Hispanic or Black, or diagnosed with post-traumatic stress disorder or major depression were more likely to have lower sperm quality. Longitudinal studies are needed to better characterize the influence of military-specific exposures on semen quality parameters.
Characteristics and service utilization of homeless veterans entering VA substance use treatment

Source
Psychological Services 2017 14 (2) 208-213

Author(s)

Abstract
This article compares characteristics and health care utilization patterns of homeless veterans entering substance use disorder (SUD) treatment. Baseline self-report and medical record data were collected from 181 homeless veterans participating in a randomized trial of SUD/housing case management. Veterans, categorized as newly (n = 45), episodically (n = 61), or chronically homeless (n = 75), were compared on clinical characteristics and health care utilization in the year prior to baseline. Between-groups differences were seen in stimulant use, bipolar, and depressive disorders. A significant majority accessed VA emergency department services, and nearly half accessed inpatient services, with more utilization among chronically versus newly homeless. A majority in all groups attended VA primary care (73.5%) and mental health (56.9%) visits, and 26.7% newly, 32.8% episodically, and 56.0% chronically homeless veterans initiated multiple SUD treatment episodes (p = .002). A significant proportion of veterans struggling with homelessness and SUDs appear to remain unstable despite high utilization of VA acute and preventative services.

Engagement in steps of advance health care planning by homeless veterans

Source
Psychological Services 2017 14 (2) 214-220

Author(s)
Dubbert,P.M., Garner,K.K., et al.

Abstract
Communicating health care preferences in advance, so that wishes can be honored if the person becomes unable to participate in decision-making, is especially important for vulnerable populations such as homeless veterans. Hospitals are required to inform patients of their rights to document their preferences, but completion rates for advance directives are low. Conceptualizing advance health care planning as a series of health behavior steps emphasizing communication is recommended for improving engagement in advance health care planning. The authors used program evaluation data from psychoeducational groups with 288 homeless veterans to learn about their previous experience with different steps of advance health
care planning and their personal goals for future steps. Results revealed a significant discrepancy between what these veterans reported they have done and information available to health care providers in the medical record: Only 26% had an advance directive in the medical record, but 70% reported they had thought about the care they would want, and almost half reported they had talked with a trusted other or named someone to make decisions for them. The most frequent goal endorsed by veterans attending groups was discussing advance health care planning with family or trusted others and/or naming someone to be a decision maker. These findings indicate a need for improved communication and documentation of veteran preferences about emergency and end of life care. Results are also consistent with interventions tailored to varying readiness for different steps of advance health care planning.

2017 104 146

Estimated Prevalence of Insomnia among Women Veterans: Results of a Postal Survey

Source
Women's Health Issues 2017 27 (3) 366-373

Abstract
Objectives Insomnia is a significant public health concern known to particularly impact women and the veteran population; however, rates of insomnia disorder among women veterans are not known. Method Women veterans who had received health care at VA Greater Los Angeles Healthcare System between 2008 and 2010 and resided within 25 miles of the facility were sent a postal survey assessing sleep, demographics, and other related patient characteristics. Results A total of 660 women (43.1% of potential responders) returned the postal survey and provided sufficient information for insomnia diagnosis. On average, women reported 6.2 hours of sleep per night. The prevalence of insomnia, determined according to diagnostic criteria from the International Classification of Sleep Disorders-2, was 52.3%. Women with insomnia reported more severely disturbed sleep, and more pain, menopausal symptoms, stress/worries, and nightmares compared with women without insomnia. There was a quadratic relationship between age and insomnia with women in their mid-40s, most likely to have insomnia. Conclusions This survey study found that insomnia symptoms were endorsed by more than one-half of the women veterans in this sample of VA users, highlighting the critical need for enhanced clinical identification and intervention. Further research is needed to establish national rates of insomnia among women veterans and to improve access to evidence-based treatment of insomnia disorder.
Intimate partner violence, unhealthy alcohol use, and housing instability among women veterans in the Veterans Health Administration

Source
Psychological Services 2017 14 (2) 246-249
Author(s)

Abstract
Women U.S. military veterans face particularly high rates of homelessness, which may be associated with psychosocial experiences including unhealthy alcohol use and experience of intimate partner violence (IPV). In this study, we examined clinical social health screening data to assess the association between housing instability and (a) experience of past-year IPV victimization, and (b) unhealthy alcohol use among 554 women receiving primary care from the Veterans Health Administration. Approximately 12% of patients screened reported housing instability. Experience of past-year IPV was associated with increased risk of housing instability (OR = 2.10, 95% CI 1.16, 3.81), with 1 in 5 women screening positive for IPV also reporting housing concern. There was no statistically significant association between current unhealthy alcohol use and housing instability. Findings hold implications for addressing potential housing concerns among women VA patients.

One-year incidence and predictors of homelessness among 300,000 U.S. Veterans seen in specialty mental health care

Source
Psychological Services 2017 14 (2) 203-207
Author(s)
Tsai, J., Hoff, R.A., et al.

Abstract
The Department of Veterans Affairs (VA) is committed to preventing and ending homelessness among U.S. veterans, but there have been few estimates of the incidence of veteran homelessness and prospective studies to identify predictors of homelessness. This study examines the 1-year incidence of homelessness among veterans seen in VA specialty mental health clinics and identified sociodemographic and clinical predictors of homelessness. Using a retrospective cohort study design, data were extracted from the VA medical records of 306,351 veterans referred to anxiety and posttraumatic stress disorder clinics across 130 VA facilities from 2008–2012 and followed for 1 year after referral. Homeless incidence was defined as new use of any VA homeless services or a documented International Classification of Diseases (9th rev.) V60.0 (lack of housing) code during the year. Of the total sample, 5.6% (7.8% for women and 5.4% for men) experienced homelessness within 1 year after referral to VA specialty mental health care.
Veterans who were unmarried or diagnosed with a drug use disorder were more than twice as likely to become homeless; those who were Black or had annual incomes less than $25,000 were more than one and a half times as likely to become homeless. Together, these findings suggest a notable and important percentage of veterans seen in VA specialty mental health clinics newly experience homelessness annually. Monitoring early signs of housing vulnerability and preventing homelessness in this vulnerable but treatment-engaged population may be important in the VA’s efforts to end veteran homelessness.

Pathways into homelessness among post-9/11-era veterans

Source
Psychological Services 2017 14 (2) 229-237

Author(s)
Metraux,S., Cusack,M., et al.

Abstract
Despite the scale of veteran homelessness and government–community initiatives to end homelessness among veterans, few studies have featured individual veteran accounts of experiencing homelessness. Here we track veterans’ trajectories from military service to homelessness through qualitative, semistructured interviews with 17 post-9/11-era veterans. Our objective was to examine how veterans become homeless—including the role of military and postmilitary experiences—and how they negotiate and attempt to resolve episodes of homelessness. We identify and report results in 5 key thematic areas: transitioning from military service to civilian life, relationships and employment, mental and behavioral health, lifetime poverty and adverse events, and use of veteran-specific services. We found that veterans predominantly see their homelessness as rooted in nonmilitary, situational factors such as unemployment and the breakup of relationships, despite very tangible ties between homelessness and combat sequelae that manifest themselves in clinical diagnoses such as posttraumatic stress disorder. Furthermore, although assistance provided by the U.S. Department of Veterans Affairs (VA) and community-based organizations offer a powerful means for getting veterans rehoused, veterans also recount numerous difficulties in accessing and obtaining VA services and assistance. Based on this, we offer specific recommendations for more systematic and efficient measures to help engage veterans with VA services that can prevent or attenuate their homelessness.
Risk factors for diabetic retinopathy among homeless veterans

Source
Psychological Services 2017 14 (2) 221-228

Author(s)
Davis,J.A., Tsui,I., et al.

Abstract
Homeless patients have high rates of visual impairment and lower rates of glycemic control than housed patients. Although diabetic retinopathy (DR) is the most common cause of new visual impairment and legal blindness in the developed world, little is known about differential risk factors for and rates of DR in homeless versus housed populations. This study aimed to compare the rates of DR between homeless and housed patients with diabetes at the Greater Los Angeles Veterans Affairs Health care System (GLA) and identify clinical and psychosocial predictors of DR rates. We performed secondary database analyses of veterans with diabetes who received care at GLA between October 1, 2013 and September 30, 2015. We described differences in demographic, clinical, and psychosocial characteristics associated with DR in homeless versus housed patients, and created a logistic regression model to identify independent predictors of DR. We found that diabetic veterans who were homeless, as compared with those who were housed, had higher rates of substance use disorders and mental health diagnoses, more primary care and mental health visits, and were more likely to have had diabetic retinopathy eye screening according to guidelines. Multiple logistic regression modeling predicting having DR, revealed that having DR was independently associated with not being homeless (i.e., being housed), older age, having had retinal screening, anemia, higher systolic blood pressure, insulin use, microalbuminuria, and higher HbA1c. Homeless diabetic veterans' lower rates of DR may be due to the GLA VA’s tailored and intensive psychological and medical resources for homeless veteran patients.

Veterans with post-traumatic stress disorder exhibit altered emotional processing and attentional control during an emotional Stroop task

Source
Psychological Medicine 2017 ( ) 1-11

Author(s)
Khanna,M.M., Badura-Brack,A., et al.

Abstract
Background: Post-traumatic stress disorder (PTSD) is often associated with attention allocation and emotional regulation difficulties, but the brain dynamics underlying these deficits are unknown. The emotional Stroop task (EST) is an ideal means to monitor these difficulties, because participants are asked to attend to non-emotional aspects of the stimuli. In this study, we used magnetoencephalography (MEG) and the EST to monitor attention allocation and emotional regulation during the processing of emotionally charged stimuli.
in combat veterans with and without PTSD.; Method: A total of 31 veterans with PTSD and 20 without PTSD performed the EST during MEG. Three categories of stimuli were used, including combat-related, generally threatening and neutral words. MEG data were imaged in the time-frequency domain and the network dynamics were probed for differences in processing threatening and non-threatening words.; Results: Behaviorally, veterans with PTSD were significantly slower in responding to combat-related relative to neutral and generally threatening words. Veterans without PTSD exhibited no significant differences in responding to the three different word types. Neurophysiologically, we found a significant three-way interaction between group, word type and time period across multiple brain regions. Follow-up testing indicated stronger theta-frequency (4-8 Hz) responses in the right ventral prefrontal (0.4-0.8 s) and superior temporal cortices (0.6-0.8 s) of veterans without PTSD compared with those with PTSD during the processing of combat-related words.; Conclusions: Our data indicated that veterans with PTSD exhibited deficits in attention allocation and emotional regulation when processing trauma cues, while those without PTSD were able to regulate emotion by directing attention away from threat.

See also

A national evaluation of homeless and nonhomeless veterans’ experiences with primary care. Under Primary care.
Case Report: Mass Casualty Lightning Strike at Ranger Training Camp.

Source
Military Medicine 2017 182 (5) e1803-e1806
Author(s)
Thompson, S.N., and Wilson, Z.W.,

Abstract
Background: Although lightning strikes are a rare occurrence, their significance cannot be ignored given military operations in the field during all types of weather. With proper medical management, patients with lightning injuries can return to duty. Methods: Information for this case report comes from eyewitness account at the 6th Ranger Training Battalion and from review of physician documentation from the 96th Medical Group, Eglin Air Force Base, Florida. Results: A lightning strike injured 44 Ranger School participants during a training exercise on August 12, 2015, at Camp Rudder, Florida. These patients were triaged in the field and transported to emergency department of Eglin Air Force Base. Of the 44 casualties, 20 were admitted. All were returned to duty the following day. One patient had cardiac arrest. This patient, along with two others, was admitted to the intensive care unit. Seventeen other patients were admitted for observation for rhabdomyolysis and/or cardiac arrhythmias. One patient was admitted with suspected acute kidney injury indicated by an elevated creatinine. All patients, including those admitted to the intensive care unit, were released on the day following the lightning strike without restrictions and were allowed to return to duty with increased medical monitoring. Discussion: This case report highlights the need for proper triage and recognition of lightning strike injury, coordination of care between field operations and emergency department personnel, and close follow-up for patients presenting with lightning injury. Symptoms, physical exam, and laboratory findings from rigorous training can be difficult to distinguish from those resulting from lightning injury. Secondary injuries resulting from blunt trauma from falls may have been prevented by the use of the lightning strike posture. Further analysis of procedures and standard operating protocols to mitigate risk during thunderstorms may be required to prevent lightning's effects on large groups of military personnel.
Tactical Combat Casualty Care and Wilderness Medicine: Advancing Trauma Care in Austere Environments

Source
Emergency Medicine Clinics of North America 2017 35 (2) 391-407

Author(s)
Butler, F.K., Bennett, B., et al.

Abstract
Tactical Combat Casualty Care (TCCC) is a set of evidence-based, best-practice prehospital trauma care guidelines customized for use on the battlefield. Military units that have trained all of their unit members in TCCC have now documented the lowest incidence of preventable deaths in the history of modern warfare and TCCC is now the standard for battlefield trauma care in the US Military. TCCC and wilderness medicine share the goal of optimizing care for patients with trauma in austere environments that impose significant challenges in both equipment and evacuation capability. This article reviews the current battlefield trauma care recommendations in TCCC and discusses their applicability to the wilderness setting.; Published by Elsevier Inc.
WOMEN’S HEALTH

See also

Risk Factors Associated with Miscarriage and Impaired Fecundity among United States Servicewomen during the Recent Conflicts in Iraq and Afghanistan. Under Obstetrics.

Sexual Assault Victimization and Mental Health Treatment, Suicide Attempts, and Career Outcomes Among Women in the US Army. Under Sexual Trauma.
<table>
<thead>
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<th>Journal Name</th>
<th>Year</th>
<th>Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>Addictive Behaviors</td>
<td>2017</td>
<td>68</td>
</tr>
<tr>
<td>Advances in Experimental Medicine and Biology</td>
<td>2017</td>
<td>955</td>
</tr>
<tr>
<td>Aggressive Behavior</td>
<td>2017</td>
<td>43</td>
</tr>
<tr>
<td>Alcohol &amp; Alcoholism</td>
<td>2017</td>
<td>52</td>
</tr>
<tr>
<td>American Journal of Public Health</td>
<td>2017</td>
<td>107</td>
</tr>
<tr>
<td>Appetite</td>
<td>2017</td>
<td>112</td>
</tr>
<tr>
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<td>2017</td>
<td>61</td>
</tr>
<tr>
<td>Behavioral Medicine</td>
<td>2017</td>
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<td>Behavioural and Cognitive Psychotherapy</td>
<td>2017</td>
<td>45</td>
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<td>2017</td>
<td>16</td>
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<td>BMC Psychiatry</td>
<td>2017</td>
<td>17</td>
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<tr>
<td>British Journal of Hospital Medicine</td>
<td>2017</td>
<td>78</td>
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<tr>
<td>Cancer Epidemiology</td>
<td>2017</td>
<td>48</td>
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<tr>
<td>Cardiovascular Diagnosis and Therapy</td>
<td>2017</td>
<td>7</td>
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<tr>
<td>Child &amp; Family Social Work</td>
<td>2017</td>
<td>22</td>
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<tr>
<td>Current Trauma Reports</td>
<td>2017</td>
<td></td>
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<tr>
<td>Dental and Medical Problems</td>
<td>2017</td>
<td>54</td>
</tr>
<tr>
<td>Depression and Anxiety</td>
<td>2017</td>
<td></td>
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<td>Disaster Medicine and Public Health Preparedness</td>
<td>2017</td>
<td>11</td>
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<td>2017</td>
<td>23</td>
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<td>Emergency Medicine Clinics of North America</td>
<td>2017</td>
<td>35</td>
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<td>Ergonomics</td>
<td>2017</td>
<td>60</td>
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<td>2017</td>
<td>27</td>
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<td>2017</td>
<td>27</td>
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<td>Frontiers in Human Neuroscience</td>
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<td>Health Communication</td>
<td>2017</td>
<td>32</td>
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<td>2017</td>
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<td>2017</td>
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<td>Journal of Clinical Experimental Neuropsychology</td>
<td>2017</td>
<td>39</td>
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<td>2017</td>
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<td>Journal of Consulting and Clinical Psychology</td>
<td>2017</td>
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<td>2017</td>
<td>62</td>
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<td>2017</td>
<td>31</td>
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<td>Journal of Substance Use</td>
<td>2017</td>
<td>22</td>
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<td>2017</td>
<td>28</td>
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<td>2017</td>
<td>65</td>
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<td>Journal of Women’s Health</td>
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<td>2017</td>
<td>389</td>
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<td>Lung</td>
<td>2017</td>
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<td>Medical Journal Armed Forces India</td>
<td>2017</td>
<td>73</td>
</tr>
<tr>
<td>Medical Surveillance Monthly Report</td>
<td>2017</td>
<td>24</td>
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<td>MEDSURG Nursing</td>
<td>2017</td>
<td>26</td>
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<td>Military Behavioral Health</td>
<td>2017</td>
<td>5</td>
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<td>Military Medical Research</td>
<td>2017</td>
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<tr>
<td>Military Medicine</td>
<td>182</td>
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<td>Military Psychology</td>
<td>2017</td>
<td>29</td>
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<tr>
<td>Neurology</td>
<td>2017</td>
<td>88</td>
</tr>
<tr>
<td>Nurse Practitioner</td>
<td>2017</td>
<td>42</td>
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<td>Nursing Management</td>
<td>2017</td>
<td>24</td>
</tr>
</tbody>
</table>
Online Journal of Issues in Nursing 2017 22 (2)
Pakistan Armed Forces Medical Journal 2016 67 (2)
Pan African Medical Journal 2017 26
Peerj 2017 (2)
Pn 2017 71 (5)
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