

## Ethics Committees Have a Role in Expeditionary Military Medicine

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**Introduction:** The benefits of ethics committees (ECs) are well-established in civilian medicine. Military medicine is not immune from ethical dilemmas. Formalized ECs are present in the military, but their role in forward deployed, small medical units is not well-established. Potential benefits: serve as a resource for healthcare providers, patients, and local families; facilitate discussion and communication; and develop recommendations based on the values of medical ethics. Arguments against such an EC may include: unnecessary bureaucracy, time constraints in high operational tempo, and the need for approval from higher authority.

**Methods:** The formation of an EC at a Level-2 Surgical Shock-Trauma Platoon (SSTP) during Operation Iraqi Freedom (OIF) 06-08.2 is reviewed. Two specific cases are evaluated. Determination was made regarding the effect of the EC's recommendation on the practice at the time and the overall benefit to the unit.

**Results:** The involvement of the EC had an effect on clinical practice. Discussion of the events in an open, but formalized way, allowed for lent greater credibility to the decisions and improved unit morale. The ability for anyone to request a consult appeared to have particular appeal.

**Conclusions:** A committee-type decision on issues of medical ethics does not conflict with good military order and discipline. EC decisions are superior to informal discussions and improve unit cohesiveness. On-site ECs may have advantages over distant authority. Pre-deployment training and designation of an EC may be helpful.

**Keywords:** ethics committee; military medicine; role

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## Development of a Near-Real-Time Disease Surveillance Capability for NATO

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At the 2002 NATO Summit of the Heads of State and Government, held in Prague, decisive capability gaps were shown to exist within NATO. Among other issues, warnings were raised about the lack in capability for the near-real-time determination of whether an outbreak of disease is to be attributed to the use of biological weaponry or to natural causes.

Since 2003, under the lead of NATO Allied Command Transformation (ACT), existing capabilities/systems of NATO partners have been identified and examined as to their suitability for NATO. The NATO ACT designated the Bundeswehr Medical Office as a "Central Analysis Center" for a surveillance experiment in the spring of 2006. Following the successful completion of the multinational experiment, COMEDS Force Health Protection Expert Panel (FHP EP) planned to conduct a multinational surveillance exercise at KFOR as a second developmental step.

This exercise at KFOR was planned, prepared, and conducted under German lead during 2008. Participants at

KFOR and at the Bundeswehr Medical Office in Munich included: Germany, France, the US, Poland, and NATO's C3 Agency. Therefore, exercise participants recommended to NATO COMEDS that a multi-nationally staffed near-real-time disease surveillance capability be established on a continuing basis at the Bundeswehr Medical Office in Munich.

**Keywords:** disease; near-real-time; out break; surveillance

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## Programs on Health Promotion and Preventive Health Care in Bundeswehr

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In accordance with the trend toward a passive, physically inactive lifestyle observed in society as a whole, the Bundeswehr should expect an increase in obesity and reduced physical performance ability, as well as associated diseases (such as high blood pressure, diabetes, and malfunctions of the locomotor system) among its personnel. On the other hand, the requirements of missions performed within the "extended task spectrum" have made significantly greater demands on personnel regarding their physical and mental performance abilities and resistance to stress.

Apart from a descriptive approach to assess the physical and mental performance abilities of Bundeswehr soldiers, concrete measures targeted toward restoring, maintaining, and improving the performance abilities and fitness for duty of servicemen and women.

The presentation discusses both the initial results obtained through evaluation of the "Bundeswehr Adipositas Intervention Program" and the contents of programs, training courses, and seminars.

**Keywords:** fitness; health promotion; preventative health care; training

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## TERCEIRA 2008 Study—2008 Characterization of the Military and Civilian Workforce at the Air Base 4 Clinic "Tenente-Coronel Médico Viriato Garrett"

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**Introduction:** Air Base 4 "Tenente-Coronel Médico Viriato Garrett" clinic, is a NATO "role 1" health unit, serving a 1,500 patient population, seen as ambulatory or in a 24-hour emergency room.

**Objective:** The objective of this study was to characterize the military and civilian workforce at Air Base 4 by gender, age group, military rank, body mass index, pathology, drug therapy, and convalescence or sick leave.

**Methods:** A cross-sectional and descriptive study was carried out.

**Results:** All active duty, reserve, and retired military personnel and active civilian workforce population (508 patients) were studied. A total of 81.9% were male, 390 military, and 118 civilian. Patient referral was mostly through administrative and follow-up appointments. A prevalence of over-

weight/obesity of 56% was concluded and a raised prevalence, >20% of dyslipidemia and hypertension, was determined. Most prevalent morbidities appeared through the endocrine system, psychological, and musculoskeletal diseases. Up to 2,528 registered days of medical-related conditions waiver, 1,483 days of convalescence or sick leave, and 104 days of family-related issues waiver were identified.

**Conclusions:** In order to improve medical programs, awareness of a population featuring an evaluated prevalence of overweight/obesity, dyslipidemia, and hypertension will foster the development of prospective, preventive strategies, with an impact in budgetary planning at decision levels.

**Keywords:** dyslipidemia, hypertension, military personnel  
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### Quality Management of the Blood Component Production Process Using Boeing Statistical Process Control Methods Adapted Excel-based Applications

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**Introduction:** Records from 2005 indicated a great variability in the use of performance indicators at different blood component production process control points.

Failure mode analysis of the production process showed that human and material resources are the main risk factors for nonconformity of blood components, and that adequate, in-time, corrective and preventive measures are the key success factors for process quality management.

**Methods:** A statistical process control (SPC) system was built based on the Boeing methods, considering each blood donation as a different production lot, and using the conditional color-formatting functions of Excel tables. These allowed for an immediate visual signal, which points to the corrective measure to be taken. Systematically followed parameters, such as measurements validity indicators, initial, intermediate and final process control points performance indicators, and process efficiency indicators recorded since 2000 were used to validate the SPC system.

**Results:** After six months of use, a statistically significant reduction in variability of different quality parameters such as component weights, cell counts, and active substances contents was identified.

**Conclusions:** Such a SPC system indicates that 100%, and certainly not 1%, blood component conformity control should be mandatory. Random human mistakes and material dysfunctions are the most frequently encountered process failure modes.

**Keywords:** blood component production; human error; performance indicators; statistical process control  
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### Transfusion—Transmissible Viral Infections Among US Military Emergency Transfusion Recipients

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**Introduction:** US military doctrine permits the use of non-Food and Drug Administration-regulated freshly collected blood products to save the lives of patients. The risks of transfusion-transmitted infections (TTI) related to battlefield transfusion of unscreened blood products are not well characterized.

**Methods:** US service members who received emergency transfusion products in Iraq and Afghanistan (01 March 2002–30 September 2007), were evaluated for hepatitis C (HCV), hepatitis B (HBV), and HIV-1 infections using reposed pre- and post-transfusion sera. Selected regions of viral genomes from epidemiologically linked infected donors and their recipients were sequenced and compared.

**Results:** Of 761 US emergency transfusion recipients, 475 had sera available for testing; 475 were tested for HCV, 472 for HIV-1, and 469 for HBV. One transfusion-transmitted HCV infection (incidence rate: 2.1 per 1,000 person-years, 95% CI = 0.1–11.7) was identified. The number of pre-transfusion infections was: HCV-4 (0.8%, 95% CI = 0.2–2.1%); HBV-11 (2.4%, 95% CI = 1.2–4.3%); HIV-1-0 (0.0%, 95% CI = 0.0–0.8%).

**Conclusions:** One TTI (HCV) was associated with the use of emergency blood products. The pre-transfusion HCV and HBV prevalence in transfusion recipients, for an eligible donor population, indicate further studies are warranted to characterize the actual deployed force donor population and these donors' TTI prevalence. These data will inform countermeasure development and clinical decision-making.

**Keywords:** blood donors; transfusion-transmissible; viral infections  
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