

3. Advanced traumatology
4. International politics and medical ethics
5. Tropical medicine and epidemic diseases
6. Disaster management

Based on this Danish Diploma Course and further work in COMEDS Working Group on Medical Training (WG-MT), COMEDS Plenary has agreed on a proposal for a NATO-STANAG to establish "Training Requirements for International Health Support" in its member countries. The Working Group on Medical Training is completing this new task of preparing a STANAG proposal for Military Acute Trauma Care Training.

**Keywords:** Danish Armed Forces; civilians; COMEDS; epidemics; ethics; Gulf War; health services; management; peace-supporting; politics; STANAG; training; traumatology; tropical medicine

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### Health Exams Caused by the Suspicion of a Connection between Depleted Uranium and Leukemia

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**Introduction:** Early in January 2001, the media reported an increased frequency of leukemia among Italian soldiers who had served in the Balkans. It was claimed that the increased frequency was caused by exposure to depleted uranium (DU) coming from shells used in the areas. On 05 January, the Danish Armed Forces Health Services (DAFHS) established a 24-hour, physician-manned, telephone line. During the first three days, 120 people contacted the line. Two former deployed soldiers reported leukemia after having returned from the Balkans. On 09 January, the Danish Ministry of Defense decided to offer a free health examination and blood testing to all soldiers who had served in the Balkans or the Gulf since 1991.

**Material and Methods:** The offer was given to 14,868 formerly deployed soldiers. Other ministries decided on 10 January to provide a similar offer to their employees who had served in the same areas. The size of the civilian population is unknown. It was decided that the health examination should be carried out by general practitioners (GPs), and that the results and bill should be sent to the DAFHS. Thus, the material consisted of all of the reports sent from the GPs to the DAFHS.

**Results:** By 31 December 2001, 4,228 reports were received. Of these, 3,716 people (87.9%) were military and 512 came from other authorities. No further cases of leukemia were found. The number of reports received during the end of 2001 was very low, and the Danish government decided to close the arrangement by 01 April 2002.

**Conclusion:** Nearly one-third of the Danish soldiers who had been deployed passed the free health examination. At least from a psychological point of view, the health examination seemed appropriate.

**Keywords:** Balkans; Gulf War; leukemia; media; uranium

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### International Disaster Relief — How Can We Improve?

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**Introduction:** International humanitarian aid has a strong

position in Norwegian tradition. During the last decades, frequent humanitarian emergencies have occurred, with an increasing number of humanitarian organisations taking part in providing assistance. However, need assessments, medical intelligence, and co-ordination of the aid often are sparse, often resulting in the provision of ineffective and expensive assistance.

**Methods:** The eight ELEMENTS of Primary Health Care as advocated by WHO, are given indicators to estimate the level of healthcare services in a country, and can be used in the evaluation of the impact of the disaster. Healthcare is related to the climatic, geographic, political, and religious situation in the affected country. The method was tested after the earthquake in Gujarat, India in January 2001, and the volcano eruption in Goma, Zaire in January 2002.

**Results:** Evaluation of the situation in the countries as a whole revealed a complex situation and severe deficiencies in the health system that added to the severity of the acute disaster. Disaster relief to the disaster victims was delayed for various reasons: 1) Efficient co-ordination was lacking; 2) Insufficient and partly irrelevant relief were provided; or 3) the needs for relief were overestimated.

**Conclusion:** To optimise the effectiveness of limited resources, disaster preparedness, and the provision of feasible and necessary aid is of utmost importance. An assessed, rapid crisis intervention may be achieved by continual watching of the world's situation by a Main Rescue Central. A panel of experts could evaluate and co-ordinate the disaster response and make use of stored emergency material and emergency teams. A successful disaster response will depend on profound medical intelligence and socio-geographic mapping in advance, during, and after the event(s) that caused the disaster. More effective and feasible use of the equipment co-ordinated with the activities provided by the rest of the world, is necessary.

**Keywords:** aid, humanitarian; coordination; earthquake; intelligence; mapping; need assessment; preparedness; Norway; volcano, eruption of

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### Suicide after Service in UN Peacekeeping Missions — A Danish Pilot Study

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**Introduction:** Humiliation, direct combat, exposure to snipers, or seeing comrades wounded or killed may trigger immediate responses such as anger, fear, or guilt. However, reactions also may arise later as the post-traumatic stress disorder (PTSD), a condition associated with an increased risk of suicide.<sup>1</sup>

**Method:** Personnel assigned to international missions from 1995 to 1997 were compared to the Danish Register of Suicide. Suicide within one year of observation was considered relevant.

**Results:** A total of 3,859 Danish United Nations soldiers were included. One soldier died in a car accident two months after discharge, two soldiers committed suicide less than one month before deployment, and two soldiers committed suicide within one year of discharge. Both of these latter soldiers belonged to the same unit, a unit that suffered heavy artillery strike with a number of casualties and heavy material damage.

**Discussion:** In a matched background population, approximately 3 suicides were to be expected. Thus, there do not

appear to be a short-term risk of suicide among Danish UN soldiers. However, the fact that the two soldiers committed suicide after discharge belonged to the same unit, and that this unit sustained a heavy artillery strike is worthy of note. A questionnaire study found less psychological morbidity among the personnel of the unit in question compared to other units at the time they were involved in combat. 2

**Conclusion:** Personnel from traumatised units carry a risk of PTSD and suicide. Special methodology to perform research into the area needs to be developed, and current programmes to detect these problems in repatriated units should be evaluated.

#### References:

1. The UNIFIL-study 1991–1992: HQ Defence Command Norway 1993.
2. Andersen HE: Danske FN-Soldater 2 år efter. Forsvarets Center for Lederskab, 1998.

**Keywords:** combat; military; peacekeeping; post-traumatic stress disorder; risk; suicide; United Nations

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### Changes in Attitudes Are Associated with Increased Reporting of Exposure to Illegal Drugs in Finland

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**Introduction.** In Finland, organised questionnaire studies among conscripts at the entry to common military service have been carried out since 1968. The aim of this study was to describe the behaviour characteristics of the July 2001 entry cohort's health, especially their lifetime exposure to illegal drugs.

**Methods.** The July 2001 questionnaire data were collected in 10 garrisons (every 5th conscript sampled) by using a 78-item questionnaire during the entry medical examination.

**Results.** The 2001 study database was comprised of 1,482 respondents. In 2001, 52% knew a user of illegal drugs among their peers in civilian life, 48% had been approached to purchase such drugs, and 21% had tried illegal drugs at sometime during their lifetime. The first use (93%) and later uses (94%) were associated primarily with consumption of hashish/marijuana. Interestingly, attitudes among those who had not tried illegal drugs changed from 80% in the 1985–1992 Group to 50% in the 1996–2001, the latter stating that the use of hashish is a danger to health. During the same time divisions, there was an increase in reporting of trials of illegal drugs from 5–10% in the 1985–1992 Group to 20% in 1996–2001 Group.

**Conclusions.** Twenty percent of the conscripts entering common military service in Finland report having tried illegal drugs in civilian circumstances. These data suggest that changes in attitudes among those who have not tried illegal drugs recently have been associated with actual trials of illegal drugs in the age groups studied.

**Keywords:** attitudes; drugs, illegal; exposure; Finland; military

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### Stress Fractures: Diagnosis with MRI, Bone Scintigraphy, and Radiography

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**Purpose:** To compare MR imaging (MRI), bone scintigraphy, and radiography in the diagnosis of stress fractures of the pelvis and lower extremities.

**Materials and Methods:** A total of 50 consecutive military recruits clinically suspected of having a stress fracture underwent MR imaging and scintigraphy. Of these patients, 43 were studied also with plain film radiography, and follow-up radiographs were taken of 24 patients. A total of 41 stress fractures were diagnosed in 32 patients using MR imaging.

**Results:** Of the patients, 36% had a false-positive clinical diagnosis of stress fracture. The sensitivity of radiography was 56%, specificity = 94%, accuracy = 67%, positive predictive value (PPV) = 95%, and negative predictive value (NPV) = 48%. In the follow-up, the sensitivity increased to 72%, NPV to 60%, accuracy to 79%, and PPV to 96%, and specificity remained the same. The kappa value for MR imaging and radiography was fair (0.39) initially, and moderate (0.57) in the follow-up. The sensitivity of bone scintigraphy was 92%, specificity = 90%, accuracy = 92%, PPV = 95%, and NPV = 86%. The kappa value for bone scintigraphy and MR imaging was very good: 0.81. Three false-negative and two false-positive scintigrams were identified.

**Conclusions:** The clinical diagnosis of stress fractures of the pelvis and the lower extremity is not reliable. If the primary radiography is negative, the use of MR imaging is preferable to bone scintigraphy and follow-up radiographs. The diagnostic value of MR imaging is higher than bone scintigraphy.

**Keywords:** diagnosis; fractures, stress; MRI; scintigraphy; x-ray

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### Possible Exposure to Depleted Uranium without Adverse Health Effects among the Finnish Peacekeepers in Kosovo

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**Introduction:** The Finnish peacekeeping troops in Kosovo had their first exposure to depleted uranium (DU) in April 2000. The purpose of the study was to describe exposure to DU and the health characteristics of Finnish peacekeeping veterans who had served in Kosovo.

**Methods:** Those who served in Kosovo were identified using the registries of the Finnish Defense Forces. A 33-item questionnaire was mailed to the veterans in late February 2001 data. The study database was closed on 30 September, 2001, and it comprised of 752 accepted responses.

**Results:** Of all the respondents, 15% had visited a place where a DU exposure was possible, 6% had been inside a DU-destroyed armored weapon, and 5% had handled DU-ammunition. A total of 83 (11%) responses suggested possible DU exposure. Health or the use of health care parameters during or after Kosovo deployment was similar between the potentially exposed and others.

**Conclusions:** Of the 752 Finnish peacekeepers who had served in Kosovo, 11% possibly were exposed to DU according to their responses in a mailed questionnaire in 2000. However, health and use of healthcare parameters during or after Kosovo service were similar between those classified as possibly exposed and those not exposed. These epidemiological results match well the results obtained in earlier reports.