ABSTRACT

CONCURRENT SESSION 2A : MEDICAL SUPPORT IN COMBAT ENVIRONMENT

Miguel Fernandez

OP1
TRACKING EPIDEMIOLOGICAL PROFILES OF MILITARY PERSONNEL DEPLOYED TO REMOTE TERRORIST THREAT CONDITIONS AREAS (THREATCONS) USING ELECTRONIC SURVEILLANCE

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Background: Military operations often require the deployment of personnel to remote areas to respond to terrorist threat conditions. In Peru, the Apurimac – Ene River Valley (VRAE) has been under this condition for approximately one year due to narco-terrorist organizations. It is characterized by harsh terrain with high mountains and deep valleys, poorly developed villages with small local populations, and incomplete knowledge of the locally endemic diseases. Military personnel deployed there use Alerta, an electronic surveillance system, for regular reporting of medical conditions.

Objective: To assess the ability of an electronic reporting system, ALERTA, to describe the epidemiological profile of units from the Peruvian Army and Navy when deployed to the VRAE.

Methods: This is a descriptive study. We analyzed the reports of infectious diseases from ALERTA for personnel (Army and Navy) deployed to the VRAE during 2008. Reports were received weekly by either phone or Internet, depending on access and convenience. Diseases were grouped into two categories: specific diagnosis or symptomatic syndrome (such as acute respiratory infections (ARI) and acute diarrheal disease (ADD).

Results: Of the units deployed to the VRAE (n=18), 50% reported on time to the Alerta system. During 2008, there were 1698 reports from units describing 7707 separate cases. The most common diagnoses in Army units and Navy units were ARI (70.39% vs 77.39%, p=0.1023), ADD (26.01% vs 17.39%, p=0.0362), and Malaria (Plasmodium Vivax) (2.00% vs 3.48%, p=0.2631).

Conclusions: Electronic surveillance systems can be useful tools for near real-time disease reporting from remote and/or THREATCON areas, allowing medical planners to track the epidemiology of disease in deployed troops and make rapid responses for their treatment or prevention, thus maintaining the fighting force. Due to half of reports were made on time, further work on improving reporting options and access, especially from these regions should be explored.

Ali Karami

OP2
EIGHT YEARS OF MEDICAL BIO-CHEM DEFENSE EXPERIENCES

Ali Karami
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Iraq invaded Iran on 22 September 1980 until 1988. During the 8 years of imposed war we have been exposed to a large number of chemical and possibility biological and bioterrorism attacks by Iraqi forces against military and civilian population. Iraq had a huge stockpile of chemical and biological weapon used during the War. How we defended against chemical and biological threat? What was our capability at the begining, during and after the war? In this presentation we will discuss the issues such as international threat of CBRN, threat assessment methods, Medical Bio-Chem Defense and our eight years of experiences during the war on medical aspect of bio-chem defense.
Kittipol Pakchotanon

Major General Kittipol was born in 1953 in Bangkok, Thailand. He is the Director of Phramongkutklao Hospital and Dean of Phramongkutklao College of Medicine. He obtained his Medical Doctorate (MD) from Mahidol University, Bangkok and has attended numerous courses and conferences throughout his career including Aviation Medicine Course, the Command and General Staff College Course and the National Defence Regular Course. For his service, General Pakchotanon has been awarded several awards by the King of Thailand including the Knight Grand Cross (First Class and Second Class) of the Most Noble of the Crown of Thailand and Knight Commander (Second Class) of the Most Exalted Order of the White Elephant.

Fizul Islam Mohd Nordin

Capt (Dr) Fizul Islam is a graduate of Doctor of Medicine (M.D.) from University of Science Malaysia. Upon completion of his study in 2005, he joined the Malaysian Armed Force and was commissioned as a medical officer in the 3rd Medical Battalion. He had served as a medical officer with the Malaysian Medical Unit IV MINURSO in 2007, a United Nations peacekeeping mission in Western Sahara. In 2008 he led a medical team in support of the Royal Malaysian Navy Counter-Piracy mission in the Gulf of Aden. He had also attended the Army Flight Surgeon Course in Fort Rucker, USA and Nuclear-Biology-Chemical Warfare at MAF Engineer School.

April 2009, the political discord in Bangkok deviated from peaceful protestation to metropolitan riotousness. Declaration of the State of Emergency authorized Royal Thai Army to be the main provider of assistance to restore law and order. Political complexity and dynamic incidents necessitated Phramongkutklao Army Hospital, the level 4 medical support within the mission area to flexibly adjust the plan and procedure for this unusual situation. Integration of each army medical support unit and merging with civilian medical services are vital proceeding to ensure provision of comprehensive care for all casualties. The authors critically analyze the aftermath of the conflict and provide an elaborate review, highlighting some remarkable issues in the process.

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It was a shocking news in the middle of August 2008 as the government made known to the public two of Malaysian merchant vessels with nearly 48 crews were hijacked by Somali pirates in the major world seaway, Gulf of Aden. Pirates attacks off the coast of Somalia dramatically surged recently - calling for serious government actions against the brigands who operate with impunity. This incident had urged Malaysian government to take a drastic action to rescue and recover their strategic assets. The Malaysian Armed Forces (MAF) was mandated by the government to establish a task force and tactically launch a special mission to rescue the hostage and regain control of the hijacked vessels. Their secondary tasks were also to escort, protect and to ensure safe passage of the remaining vessels in the Gulf of Aden. Two Royal Malaysian Navy warships were dispatched, 7000 km from home country to carry out the mission codename ‘OP FAJAR’. Several hundreds of the finest MAF personnel from several different trade and specialties were chosen for this challenging task. They included several hundreds Navy officers and sailors, aircrews and highly trained Navy Commandos. The MAF also had decided to incorporate a medical team to the task force group. Their roles were to plan, provide and coordinate medical services to all personnel involved and eventually conserving the fighting strength of the task force group ensuring them to be capable of executing the mission effectively. The mission exposed doctors and paramedics from the Royal Medical and Dental Corps of MAF to a new perspective of the working environment. This presentation describes the roles, tasks, experiences and challenges encountered by the MAF Medical Team throughout the mission and how they grappled all those challenges and significantly contributed to accomplish this counter-piracy mission in the middle of the wild ocean, Gulf of Aden.
Brigadier General Dr Gambhir Lal Rajbhandari is the Chief, Cardiothoracic Surgery Unit at Birendra Military Hospital in Nepal. He is also a Professor at the CTVS National Academy of Medical Science. He obtained his training in cardiothoracic surgery in various countries including the USA, Pakistan and Germany. He is the pioneering cardiothoracic surgeon in Nepal and developed the first Cardiothoracic Surgical Unit at Birendra Military Hospital in 1994. He initiated closed cardiac surgery in 1995. Based on his pioneering work in Nepal, Dr Gambhir Lal designed, developed and patented a special cardiothoracic equipment named The Gambhir Thoracostomy forceps in 2002. He is also a member of several professional bodies including as a Fellow of the International College of Surgeons, USA, Pakistan Society of Thoracic & Cardio Vascular Surgery, Cardiac Society of Nepal and the Society of Surgeons of Nepal. Dr Lal has published and several papers in international journals and conferences.

Gambhir Lal Rajbhandari
Cardio-Thoracic Surgical Unit, Birendra Army Hospital, NEPAL

With the brutal attack of Maoist insurgents at Dang Barrack of Nepal Army in 2001, Nepal Army was mobilized throughout Nepal to control and contain Maoist insurgency movement and to bring to peaceful negotiation in Nepal. During these 5 years of Maoist insurgency period from 2001 to 2006 almost 3000 combat casualties were brought to Birendra Army Hospital for emergency surgery and management. During 5 years of Maoist insurgency there were about 100 major thoracic trauma patients operated at Birendra Army Hospital. Of the 3000 combat casualties treated at Birendra Hospital only 100 cases of major thoracic trauma with bullet injury and bomb blast injuries were included in this review. Of 100 thoracic trauma patients their age range from 4 years to 70 years. There were 86 male and 14 females. Of 100 patients 61 from regular Nepalese Army personnel, 10 Ex Service men, 10 family members of Army, 10 Civilian, 4 Armed Police. 2 police and 2 from maoist insurgents. Of 100 combat casualties 56 were following bullet injury and 44 were from bomb blast. Of 100 combat casualties 30 cases had hemothorax, 14 cases presented with pneumothorax, 19 cases presented with hemo–pneumothorax, 18 cases presented with open pneumothorax, 10 cases presented with major chest wall laceration, 11 cases had diaphragmatic tear of 100 thoracic trauma cases, 55 cases required intercostals chest tube drainage, 35 cases required emergency thoracotomy operation and repair of intra thoracic, diaphragmatic and pulmonary injuries, 10 cases required chest wall wound debridment and repair of chest wall wound. 12 patients with poly trauma required both thoracotomy and laparotomy. Of 100 combat thoracic trauma patients, 40 patients had associated with poly-trauma.

Results: Of 100 thoracic combat casualties 3 patients died in hospital in spite of all available treatments. 5 patients with spinal injury had residual paraplegia. Rest 92 patients survived of major thoracic bullet and bomb blast injury and back to active life. During this 5 years of maoist insurgency 760 combat casualties of Nepal Army lost their life at the battle field and on their transport to military hospital. Of 3000 combat casualties brought to military hospital only 50 combat casualties lost life in spite of major trauma. With this experience we have learned a lesson that the shorter the transport time from battle field to hospital the better the chance of survival. So we should try our best and utilize all the resources to treat and transport the trauma patient during golden hour from battle field to military hospital for best change of survival from battle trauma.
OP1
THE RESEARCH PROGRESS AND DEVELOPING ASPECTING OF SATURATION DIVING IN THE PEOPLE’S REPUBLIC OF CHINA

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Saturation diving is the advanced method of deep diving. Since the concept of saturation diving was put forward by the American Naval Diving Physiologist Bond in last century, a great deal of researches about saturation diving technology and its medical services have been carried out in a number of countries. In 1975, China started animal experiments on saturation diving research, and built up its first saturation diving chamber in Naval Medical Research Institute of PLA in 1976. The Naval Medical Research Institute of PLA had done many researchs on saturation diving and its medical supports. The saturation diving technology and medical services have been greatly improved for the last thirty years. We have not only carried out air saturation diving, nitrox saturation diving, but also have done heliox saturation diving. We have completed the simulated saturation diving study as well as carried out in the open sea. The greatest depth of simulated saturation diving in China is 350 meter heliox saturation and 376 meter excursion in laboratory and 150 meter heliox saturation and 182 meter excursion in the open sea. The technology of saturation diving have been used in civilian diving and the development of ocean petroleum exploration.

OP2
A RETROSPECTIVE STUDY ON DIVING ACCIDENTS TREATED AT A MILITARY HOSPITAL-BASED RECOMPRESSION CHAMBER FACILITY IN MALAYSIA

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This presentation describes the pattern of diving accidents treated in a military hospital-based recompression chamber facility in Malaysia. A retrospective study was carried out to utilize secondary data from the respective hospital medical records from 1st January 1996 to 31st December 2004. A total of 179 cases categorized as diving accidents received treatment with an average of 20 cases per year. Out of 179 cases, 96.3% (n=173) received recompression treatment. Majority were males (93.3%), civilians (87.2%) and non-Malaysian citizens (59.2%). Commercial diving activities contributed the highest percentage of diving accidents (48.9%), followed by recreational (30.2%) and military (12.8%). Diving accidents due to commercial diving (n=86) were mainly contributed by underwater logging activities (87.2%). The most common cases sustained were decompression illness (DCI) (96.1%). Underwater logging and recreational diving activities which contribute to a significant number of diving accidents must be closely monitored. Notification, centralized data registration, medical surveillance as well as legislations related to diving activities in Malaysia are essential to ensure adequate monitoring of diving accidents in the future.
Hengyi Tao is a Professor of Hyperbaric Medicine in the Department of Diving Medicine of Second Military Medical University of Shanghai, China. He is also the Director of Diving Medicine Committee of Chinese Nautical Medical Association. Since 1997 he has received many recognitions and awards and has many papers published to his credits.

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Objectives: The aims of the study was to determine the relationship between our special designed competency model and personality characteristics of Chinese navy submariners as well as to find out the predictability of personality test for the psychological screen of submariner candidates.

Methods: One hundred and seventy-one freshmen in Chinese navy submarine college were investigated using the revised Chinese version of Minnesota Multiphasic Personality Inventory (MMPI). The 12 special adaptability scales from MMPI [EMP(Empathy scale), Gm(General Maladjustment Scale), Ie(Intellectual Efficiency Scale), In(Inner Maladjustment Scale), Mt~College Maladjustment Scale, Nf~Neurotism Scale, PSY~Psychoticism Scale, Re~Social Responsibility Scale, SOC~Social Maladjustment Scale, To~Tolerance Scale, Wa~Work Attitude Scale] were used as the indexes of personality. Then these freshmen were evaluated after their profession being trained for 6 months using the competency model as criterion.

Results: MMPI was significantly related to the general comment in the competency model. The unqualified item counts more, the general comment in the competency model is worse~P<0.01~.

Conclusion: The 12 special adaptability scales from MMPI have certain predictability on competency of candidates, and can be used for personnel selection in Chinese navy submariners.

Chen Ruiyong
Col Chen is a Professor from China. He graduated from Second Military Medical University Of PLA, China. Since 1997 he has been employed in the Naval Medical Research Institute of PLA. He was in the Diving and Submarine Escape Medical Research And Support for China Navy and got his Medical degree in July 2005.

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Background / Objective: Submarine escape (fast buoyant ascent escape), is the most possible choice for survivals get away from DISSUB. Although it is known that rapid compression and decompression are rigour stress to human physiology, training is effective for successful submarine escape. How to minimize the stress during training is always a task for us. Lung is susceptible to rapid change of pressure. Dynamic pulmonary function and the content of carbon dioxide in gas of end-expiration (PETco2) may be the best non-invasive parameter for evaluating pulmonary effects of submarine escape.

Materials and Methods: 5 male naval divers conducted submarine escape trainings, from different depths (3 to 60msw) or compressing with different speed (pressure doubled in 20s or 30s), in simulate submarine escape tower in Naval Medical Research Institute of PLA. The gas of end-expiration, respiratory rate (RR) and dynamic pulmonary function was collected immediately after each escape. PETco2 were determined with chromatographic mass spectrum.

Results: Results showed that FEV1.0 presented a trend of declined with depths and that after 50msw and 60msw were higher than base’s (p<0.05) along with slightly decreased FEF25% which suggested functional effects on small airway. The PETco2 and RR were elevated after escapes. The RRs were no significant difference among all depths. The PETco2 after escape was in positive correlation with depth(R=0.387, P<0.01), compressing time(R=0.459, p<0.01), and RR(R=0.467, p<0.01). All PET CO2 were within normal ranges which suggest that increased RR were induced by stress rather than CO2 retention. There were no significant differences between different compressing speeds in RRs and PET CO2, which suggested slower compression speed might not mitigate stress.

Conclusions: It is commended that submarine escape training no deeper than 50msw for minimizing possible airway damage. The benefit of slower compressing speed in shallow escape depths was disputable.
OP5
SUBCLINICAL HIGH ALTITUDE PULMONARY EDEMA IN FIRST TIME HIGH ALTITUDE RAPID INDUCTEES

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Introduction: Many studies world wide have suggested the existence of subclinical form of High altitude Pulmonary Edema (HAPE). In our study, we labeled an individual, inducted rapidly to High Altitude (HA), as a case of Sub clinical HAPE, if he remained asymptomatic in the period of acclimatization to HA but had radiological and/or pathological signs of HAPE.

Methods: 107 healthy male asymptomatic individuals (Lake Louise Consensual Score for Acute mountain Sickness less than 3) undergoing acclimatization after rapid induction to HA underwent radiological examination of chest on Day 3 (D3) and Day 7 (D7). Subject was labeled as a case of Sub clinical HAPE if chest X-ray showed radiological evidence of HAPE. (Any radiograph with at least one lung quadrant score of 2 or more was considered positive for HAPE). PaO2 and PaCO2 levels of sub clinical HAPE cases and age and sex matched subjects (Control) were compared on D3 and D7.

Results: Incidence of Sub clinical HAPE was found to be 6.54%. Mean PaO2 levels increased by 6.15% in cases and by 2.45% in controls at the end of acclimatization. Mean PaCO2 levels showed significant statistical difference between cases and controls on D3 and D7.

Conclusion: Incidence of Sub clinical HAPE is much higher than actual incidence of HAPE. PaO2 and PaCO2 levels in subclinical cases were found to be essentially comparable to levels in overt cases of HAPE, as found in similar studies.

OP6
EFFECTIVENESS OF HOMOCYSTEINE LOWERING VITAMINS IN PREVENTION OF THROMBOTIC TENDENCY AT HIGH ALTITUDE AREA: A RANDOMIZED CONTROLLED FIELD TRIAL

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1 INDIA

A 30 times higher risk has been reported on prolonged stay at high altitude in Indian soldiers and rising levels of various factors causing a prothrombotic milieu have been implicated. As lowering of homocysteine has been found to reduce the risk of venous thrombosis and stroke a field based triple masked randomized field trial was conducted in high altitude area (HAA) to study the effectivness of homocysteine (Hcy) lowering vitamins on the thrombotic tendency at HAA. The reference population was the entire population of Armed forces personnel in the high altitude areas. The sampling frame was all units freshly inducted to HAA. Randomization of all freshly inducted units was done into intervention (Vit B12 1000 microgram/day & Folic acid 5 mg/day) or control arm (receiving routine supply of B complex without Vit B 12 and folic acid). The sample size was 10,000 in each arm. With stay in HAA, at the end of one year Folate and B 12 levels decreased significantly in control arm. The levels of Hcy, Fibrinogen, PAI 1 were statistically significantly lower in intervention arm as compared to control arm. Hcy levels were significantly higher and Nitric oxide (NO) lower in control arm as compared to intervention arm (p=0.000). Correlation was seen between Hcy levels and NO levels and between NO levels and PAI 1 levels. At the end of 2 years, 5 thrombotic episodes occurred in the intervention arm as compared to 17 in control arm. Relative Risk was 3.40 (95% CI 1.25 – 9.41) and Attributable fraction (AFa) =70.59%. Population attributable risk percent was 54.55%. Protective fraction= 240%. Intervention with B12 and folic acid is effective in reducing Hcy, PAI 1, fibrinogen levels and increasing NO levels in soldiers staying in HAA for 1 yr as compared to control arm and reducing the incidence of thrombosis at 2 years of stay at HAA. Thus to conclude, Vitamin B 12 and folic acid intervention is a cheap, safe, efficacious and effective method of reducing the morbidity, mortality and loss of man days caused by effects of coagulopathy induced by prolonged stay in HAA and will go a long way in improving the morale of the troops fighting the enemy in adverse environmental conditions.
ABSTRACT

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Concurrent Session 2C: Military Education and Training

OP1

MODERN LEGAL REGULATION OF INTERACTION OF ARMED FORCES MEDICAL SERVICES

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Participation of military medicine in peacekeeping operations and humanitarian activity a very limited before, is becoming more and more natural and significant part of state and international activity on rendering medical aid to victims of humanitarian disasters. Willingness of the world community to use the human and technical potential of the most organized part of the state – military formations, including military medical service, to solve such problems is very logical. In accordance with the Geneva Conventions military medical service is considered a “non-combatant” party and has a special status. From those positions military medicine possesses special functions, acting at a body of practical realization of international legal obligations of the state in providing protection to victims of armed conflicts and humanitarian catastrophes and rendering medical care to them. According to the experience, participation in humanitarian action of a great number of international structures and organizations of different countries with different capabilities, require joint command or, at least, joint coordination in order to use the assets effectively. As far as many specialists are concerned, the absence of the joint system of control over international forces reduces effectiveness of humanitarian aid. The situation becomes worse if the operation is conducted not under the United Nations flag. As it was stated by the representatives of World Health Organization on the example of Afghanistan, the attempts to provide humanitarian aid by the coalition forces considered by the local population as occupational had a completely opposite effect in the majority cases. The world community constantly works on creation and perfection of national and international plans of complex reaction on situations of crisis which often require the presence of the new peacekeeping missions in different parts of the globe. The current system of the UN reserve agreements is the major legal basis for such work. Also the development of medical systems of liquidation of humanitarian catastrophes’ consequences will undoubtedly greatly benefit from the exchange of experience and close interaction of armed forces medical services with each other and with International Committee of Military Medicine. The major criteria of effectiveness of such development are constant readiness to save the human lives.

OP2

THE HEALTH EDUCATION IN THE ITALIAN ARMY: GUIDELINES FOR A CORRECT PLANNING.

Federico Marmo
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Health is first for social, financial and personal development and the individual is the most important resource for it. You have to promote health in two fields: individual and general. In the first one you have to change the behaviours using tools of “Health Care”, in the second one improving the context and life’s conditions. In the military field where the centrality of humanity is represented both by education and by training and quality of life. Health Care has always been very important for health promotion that is related to Army operative tasks. Health Care has to be thought of as learning to self-aid and as promotion of healthy behaviours, habits and way of life. The NATO doctrine also affirms the central role of Health Care, inserting in the force protection field. Health Care carrying out is task peculiar to Army doctor and he has to take on the training subjects, communicative procedures and training goals responsibilities. His role is critical because before forming by words he has to be a model through himself and his style of life. The following will be illustrated in my presentation: objectives, goals and the process of the new Health Care Program for the Italian Army, which has been in act since 2007.

Federico Marmo
Major General Professor Dr Federico Marmo was born in 1950 and is currently the Chief of the Italian Army Health Service. He earned his degree in Medicine and Surgery and Specialization in Ophthalmology from the University of Florence, ITALY. He also underwent specialist training in Hygiene and Preventive Medicine and has a Masters degree in Emmas Executive Management of Health Organizations from Bocconi University, Milan. His military experience incudes positions as the Deputy Chief of Logistics and Chief of Military Health Department, Rome; Director of Military Health and Veterinary Research Centre, Rome; Chief of Military Health and Veterinary Department, Verona and Padua and as Chief of Military Medical Service of the Central Region, Florence. Professor Marmo also has extensive teaching experience notably as Professor of Ergoophthalmology, Accident & Legal Ophthalmology Medicine, University of Padua; Professor of Military Legal Medicine, University of Padua; Professor of Organizational and Management Methodology and Techniques, University of Reggio Emilia; Professor of Microbiology and Ocular Hygiene - University of Padua; Professor of Epidemiology and Prophylaxis of Infectious Ocular Diseases, University of Padua and Professor of Microbiology and Ocular Hygiene, University of Florence. For his immense contribution in the military and academic institutions, General Marmo has been bestowed numerous awards including Commendation for Acts of Service 5 times; Silver and Gold Cross for length of service and Knighthood of the Order of Merit of the Italian Republic. He is also an author of more than 27 scientific research publications.

Ivan Kholikov
Lieutenant Colonel Ivan Kholikov is a graduate of Military University, Moscow. Currently he is the Chief of International Cooperation branch of Main Military Medical Department of the Russian Federation Defense Ministry. He participated in a few International campaigns such as United Nations Mission in Angola(UNAVEM III) in 1996; Multinational Operation in Kosovo(KFOR) in 2001; and United Nations Mission in Chad(MINURCAT) in 2009. Lt. Col. Ivan has a PhD in International Law; is an Associate Professor; author of numerous publications on peacekeeping, International Humanitarian Law and has also contributed in the field of Military Medicine.

Ivan Kholikov
Has been bestowed numerous awards including Commendation for Acts of Service 5 times; Silver and Gold Cross for length of service and Knighthood of the Order of Merit of the Italian Republic. He is also an author of more than 27 scientific research publications.
Defence General Staff for the Ministry of Defence and by the Quality Department-General Directorate for Human Resources and Healthcare Professionals for the Ministry of Labour, Health and Social Policy. To increase the capability for immediate healthcare response in assisting the wounded. As a result of this lengthy planning activity, a Memorandum of Understanding was signed on 17 November, 2008 by the Italian Medical Officer at the Turkish General Staff Health Department until 2006. Currently he is an Assistant Professor at the Department of Medical History and Deontology, Gulhane Medical Academy, Ankara, Turkey.

OP3
FUTURE ISSUES ON MILITARY MEDICINE AND THEIR ETHICAL DIMENSIONS

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Objective: Discussing the major possible ethical concerns which military physicians will face in the future.

Methods: A review of the articles related to recent developments in military medical sciences.

Results: Physicians in the military will always face ethical issues. As technology continues to improve in the future, there will be new challenges. Some of the unique issues and ethical dilemmas associated with them are evident today. Examples include methods to reduce human suffering in war and new technologies to enhance the health and well-being of a soldier. The use of drugs such as short-acting sleep medications is already being tested to enhance soldiers' battlefield performance. There are many other drugs that have been developed but not tested for their safety. Nevertheless, some drugs have already been used by army personnel, despite lack of clinical safety data of its usage. They have been used for compassionate grounds. A full safety profile of all new drugs need to be known to avoid unnecessary problems related to their usage among the army.

Conclusion: This presentation will also discuss other related policies such as the use of non-lethal weaponry, teledermatology and telepresence surgery, usage of drugs to enhance soldiers' performance and new lifesaving techniques suitable for use on the battlefield.
OP5
STUDIES OF EDUCATIONAL CURRICULUM ABOUT OPERATIONAL MEDICINE AND MANAGEMENT OF MILITARY HEALTH AT THE GULHANE MILITARY SCHOOL OF MEDICINE

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"Military Medicine" is an academic discipline supported by extensive literature and scholarly activities with broad applications across the spectrum of medical specialties. Armed forces physicians generally recognize that there is a body of knowledge peculiar to the medical problems and needs of military units and that this knowledge base is different from that required in ordinary medical practice. Each institution has to employ the manpower who is equipped with the characteristics that fit the institutions' targets. Military Medical Physicians work different parts of the Armed Forces with various cadre duties. According to our results, Military physicians were found to have adequate training about medical subjects but inadequate training about administration, management and logistic. Regarding this, an education program has been developed that included Planning operational medical support and management of military health Services within the scope of Military Medical Education and integrated into the curriculum for coming years. Issues related to Operational Medicine and planning as well as Management, organization and leadership in Military Medical System were distributed in curriculum considering different educational levels. The scopes of Some lessons cover: Military Medicine Past-Today-Future, Differences Between Military and Civilian Medicine, National and International Military Health Systems, Essential Principles At Military Health Support, Military Health Support in Other Than War And Peacekeeping Operations, Field Operations, Humanitarian Assistance And Complex Emergency Conditions, Management And Organization, National Security and Health, Lessons Learned From Operations, Leadership In Military Medicine, Motivation, Military Medical Doctrines in NATO, Geneva Conventions. Military medicine, as being a unique occupational form of medicine, brings educational differences. Under the light of international studies, it is needed to determine the national curriculum in terms of how education must be given related to planning of operational medicine, medical tactics, administration and organizations as being basic difference of military medicine from traditional medical education.

OP6
REFORM OF THE HUNGARIAN MILITARY MEDICAL SERVICE – CHALLENGES, TASKS, ACHIEVEMENTS AND FUTURE PRIORITIES

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This presentation demonstrates the challenges, tasks, capabilities and achievements of the military medical services of the Hungarian Defence Forces. The audience will learn, how a small country like Hungary can contribute to defence capabilities of the North Atlantic Treaty Organization (NATO) with its continuous effort to transform the whole country via its armed forces and their medical services into a security producer instead of being a security consumer within the Alliance. The audience will learn the main priorities of the military medical services derived from national defence policy, the armed forces vision and objectives, NATO Comprehensive Political Guidance and its military medical implications. The presentation highlights how the military medical service is specializing while preserving diversity in capability development, how medical personnel uses traditions to keep ahead with technological advances and new challenges in military medicine, how national interests and priorities are streamlined with NATO requirements, and how the command structure was reformed in order to assure integration of civil-military capabilities and cooperation in support of the armed forces personnel both on deployments and at homeland duty. The presentation highlights shifts in priorities towards deployable medical capabilities, results of the reform process, structural changes to support new priorities, and future tasks within the Hungarian Defence Forces and its military medical services.