

SUMMER CONGRESS  
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CONFÉDÉRATION INTERALLIÉE DES OFFICIERS MÉDICAUX DE RÉSERVE  
INTERALLIED CONFEDERATION OF MEDICAL RESERVE OFFICERS

***Scientific Program***  
Programme Scientifique

***Abstracts of presentations***  
Résumés des conférences

- 0830 **Host Nation Session**
- 0830 **Arrival - Installation - Welcome / Arrivée - Installation - Salutation**  
*Dr T Zetterstrøm*
- 0830 **Danish Armed Forces in an active foreign policy – medical aspects.**  
*MG E Darre, Denmark*
- 0900 **University Hospital Treatment of the Wounded Soldier.**  
*Dr F Warburg, Denmark*
- 0940 **Consensus Report – Amputations and Prosthesis.**  
*Prof Dr JB Lauritzen, Denmark*
- 1000 **Coffee break**
- 1030 **Military autopsies – lessons learned.**  
*Dr PJT Knudsen, Denmark*
- 1100 **A prospective study of psychological reactions among Danish soldiers deployed to Afghanistan.**  
*Dr M Bertelsen, Denmark*
- 1200 **Rehabilitation through physiotherapy and sports – the struggle back.**  
*Ch Olsen, R Oland, JM Manuel, Denmark*
- 1245 **Lunch**

- 1400 **Free Paper Session**  
*Chair: Dr Stienstra*
- 1400 **Co-morbid TBI and Operational Stress Injuries, The Role of the Mental Health Clinician in a Multidisiplinary Deployed Setting.**  
*Dr ES French, Canada*
- 1425 **Stroke, Brain Trauma, Infection: Use Beta Blockers: Connecting the Dots.**  
*BG Dr G Griffin, US*
- 1450 **Neck pain among fighter Pilots after introduction of JHMCS helmets and NVG in their Environment.**  
*Dr B Lange, Denmark*
- 1515 **Artificial blood clotting systems.**  
*Dr Stef Stienstra, Netherlands*
- 1540 **Coffee break**
- 1610 **Percutaneous Endoscopic Gastronomy - An Essential Skill for the Military Surgeon?**  
*Dr EB Larkin, UK*
- 1630 **Discussion**

POSTER session 0900 – 1700 in entrance hall

- 0800 **Arrival - Installation - Welcome / Arrivée - Installation - Salutation**  
*Dr T Zetterstrøm, Denmark*
- 0800 **Session 1 Chair:**  
*Dr St Stienstra, Prof Dr W Mack, Dr W Otto*
- 0800 **Mortality & Morbidity of Combat Neck Injury.**  
*Prof Dr EB Larkin, UK*
- 0825 **Mild Traumatic Brain Injury (mtbi) – shell shock of the 21st Century? Concussion or Somatoform Stress Reaction.**  
*Dr K-H Biesold, Germany*
- 0850 **The Importance of 3D-Modeling in the Pre-operative Planning of Complex Facial Reconstruction by a Vascularized Composite Tissue Allotransplantation (VCTA) of the Face.**  
*Prof Dr P Blondeel, Belgium*
- 0915 **Deep circumflex iliac artery free flap reconstruction of the mandible.**  
*Prof Dr EB Larkin, UK*
- 0940 **Traumatic vessel injury of the neck - Treatment and outcome.**  
*Dr P Fellmer, Germany*
- 1000 **Coffee break**
- 1030 **Radiology of Battlefield Head and Neck Trauma.**  
*Dr R Graham, UK*
- 1055 **A brief overview of the standardisation agreement (STANAG) on military forensic dental identification.**  
*Dr Kosel, Germany*
- 1120 **Evaluation of the Role of ENT Surgeon in a Theater Operation: Experience of the french KAIA role III.**  
*Prof Dr M Kossowski, France*
- 1145 **“Experience from ISAF mission in neurosurgical practice“.**  
*Prof Dr U Kunz, Germany*
- 1210 **Discussion**
- 1230 **Lunch**

- 1345 **Session II**  
*Chair: Dr S Stienstra, Prof Dr W Mack, Dr W Otto*
- 1345 **Therapeutic Potential of P.R.G.F. in regenerative Medicine. Use in Oral Surgery.**  
*Dr MM Dutor, Spain*
- 1410 **Design Validation of Military Ballistic Cervical Protection through development of a novel numerical injury model.**  
*Prof Dr EB Larkin, UK*
- 1435 **N.N.**  
*Prof Dr Dr A Schramm, Germany*
- 1500 **The Joint Position Sense of the Cervical Spine in Patients with unilateral Neck-Shoulder-Arm Pain of Radicular Origin.**  
*Dr E Bernard, Belgium*
- 1530 **Coffee break**
- 1600 **Prise en charge d`un traumatisme de la colonne cervical au sein du détachement médical belge en role-0 ou role-1**  
*Dr D Di Duca, Belgium*
- 1625 **Advancement in the Treatment of Abdominal Injuries Sustained on the Battlefield, Lessons Learned in Surgical Techniques, Resuscitation and Post Operative Care.**  
*MG R Kasulke, US*
- 1700 **Discussion**
- 1745 **Assembly in the Tivoli Hotel Lobby**
- 1800 **CIOMR Dinner**

## “University hospital treatment of the wounded soldier.”

*Maj Finn E Warburg*

Copenhagen University Hospital “Rigshospitalet”

### **Introduction**

In the period 2006 to 2010 Copenhagen University Hospital, “Rigshospitalet” received 63 wounded soldiers. The causes of injury were gunshots, rocket propelled grenades and mines. The author had been deployed to the NATO field hospital in Kandahar in 2006 and 2007. In Rigshospitalet he was responsible for reception, orthopedic procedures and coordination of the wounded soldiers treatment.

### **Methods**

ICU, debridement, vascular graft, simple osteosynthesis, hyperbaric oxygen, computerlegs, pilates.

### **Results**

After treatment and rehabilitation we succeeded in discharging 61 of the patients to their own home, self dependent. We lost one patient in the hospital after prolonged intensive care and one is still training to relieve himself of dependence. Today’s most prevalent war injuries are presented in cases from Kandahar as well as their initial treatment.

### **Discussion/Conclusion**

The methods used in final repair and rehabilitation of injured soldiers in the university hospital is outlined. Interesting experience regarding surgery, reconstruction, infection control, pain relief and training has been gained and is now used in other patients as well.

## “Amputations and prostheses, Danish Consensus Report.”

*Jes Bruun Lauritzen*

Danish Medical Corps and Orthopaedics BBH, University of Copenhagen

### **Introduction**

In the first decade following the year 2000 the veteran amputees were supported with a variety of prosthesis without any systematic support in relation to modern prosthetic devices. The General of the Danish Medical Corps requested a consensus report on upper and lower limb amputations.

### **Methods**

A selected board was established. The board consisted of orthopedics, orthopedic engineers, physiotherapists, military surgeons, biomechanics and researchers. Centers of excellence such as Walter Reed AMH, Bethesda, Center of Intrepid, Brooke AMH and Headley Court have been visited.

### **Results**

The first consensus report was released in 2007 and since consequently updated annually. A set of physical and mental guidelines (modified from Walter Reed) for qualifying and applying the municipal for new computerized prosthesis were proposed. The first computerized Genium transfemoral knee prosthesis will be presented by Daniel T, who is amputee.

### **Discussion/Conclusion**

The support of prosthetic devices for the veterans has now become systematic and the newest computer technology in prosthesis has been implemented. Other initiatives have also supported the development for improved prosthesis care such as the governmental veteran policy and the Soldiers Grant.

## “Military autopsies – lessons learned.”

*SurgCom sg Peter Juel Thiis Knudsen*  
Defence Health Service Institute of Forensic Medicine

### Introduction

All fatalities in international operations are taken to one of the three Forensic Institutes for death certificate and autopsy, and all autopsies are attended by the Judge Advocate General Corps and the Defence Health service.

### Methods

For this investigation all fatalities 2002-2010 were reviewed from reports from the military police, hospital records and autopsy or medico-legal inquest reports with the permission of the JAGC.

### Results

A total of 52 soldiers, sailors and airmen died during international operations in 2002-2010. 39 were combat injury, including 3 from friendly fire and there were 10 accidents, one suicide and two deaths from natural causes. The main cause of injury in the combat deaths was explosions. The main causes of death were multi-trauma, exsanguination and head injury.

### Discussion/Conclusion

The death certificate must be issued by the JSAGC because all soldiers die from unnatural causes or their death was unexpected. The forensic autopsy is performed because the law says so, and because we can learn from it. A Defence Health Services representative attends to evaluate treatment and protective equipment, and to brief relatives – perhaps the most important urgent need. In this investigation we found that the medical treatment and protective equipment were sufficient, but the latter was often overmatched.

## “Psychological health in a group of 610 Danish soldiers deployed to Afghanistan – a prospective study.”

*Dr Mette Bertelsen*  
Danish Veteran Centre

### Objective

Effective planning and tailoring of treatment for PTSD and other stress related disorders depend on large-scale prospective studies on long-term incidence and development of these disorders.

A number of studies have shown incidence rates of PTSD following military deployment on 2-12%, but prospective research designs on detailed and long-term development of PTSD are scarce due to difficulties designing such studies in a population of civilians.

This prospective study investigates the development of PTSD symptoms and outlines to what degree delayed onset of PTSD can be expected up to 2.5 years after exposure.

### Method

A number of 610 Danish soldiers deployed for Afghanistan, Helmand Province from February 2009 to August 2009 were included in a prospective study. The study is carried out in six waves, and soldiers have been assessed before, during and four times after homecoming. Primary outcome measures are PTSD, depression, anxiety and substance abuse, measured with among others PCL - scale and SCID.

### Results

The collection of data is currently ongoing. Results regarding development and delayed onset of PTSD and other stress-related disorders will be presented.

## “Rehabilitation through physiotherapy and sports – the struggle back.”

*Christian J Olsen*  
Rigshospitalet Frederik

### Rehabilitation of wounded soldiers through physiotherapy and sports.

1. Physiotherapy to wounded soldiers. Organization and actions. Physiotherapist C. Olsen
2. Introduction to sports and paralympic disciplines; difficulties, benefits and challenges. Sports Manager R. Oland

The soldiers view: The way from wounded in Afghanistan to living with a disability in Denmark.  
Staff Sergeant M. Manuel

## “Co-morbid TBI and Operational Stress Injuries, the Role of the Mental Health Clinician in a Multidisciplinary Deployed Setting.”

*Capt Stan French, CD RN BSc*

<sup>1</sup> Canadian Field Hospital Detachment  
*Canadian Forces Health Services*

### Introduction

The recent opening of the Warrior Recovery Centre in February 2012 at the Kandahar Air Field may be seen as the birth of the comprehensive approach to assessing and treating soldiers who have been injured in combat. Such injuries can include mild traumatic brain injury (mTBI) and operational stress injuries (OSI) (collectively including combat stress reaction, acute stress disorder, posttraumatic stress disorder, depression, and anxiety disorders) which can coexist in an overlapping manner that may be confusing when establishing a diagnosis and a treatment plan. The imperative for the establishment of an effective clinical approach in the deployed setting for co-morbid mTBI and OSI is being driven by the post-deployment statistic that greater than one third of veterans who have suffered a mTBI also suffer from PTSD. Improved outcomes and reduced cost is the aim of improved acute care.

### Methods

Studies and clinical guidelines regarding mTBI and OSI, both separately and co-occurring were reviewed and synthesised with established best practice in the management of complex health care and combat stress reaction, with the aim of establishing the effective integrated role of the mental health clinician.

### Results

There is insufficient research available at present to establish clear clinical practice guidelines for co-morbid mTBI and OSI. However, the multidisciplinary approach involving a mental health clinician can help unravel the clinical picture for a more effective patient outcome. Six practical roles for the mental health clinician were identified along the continuum of care.

### Discussion/Conclusion

The inclusion of a mental health clinician within a comprehensive, multidisciplinary, patient focussed model of deployed care can improve both short and long-term patient outcomes for co-morbid mTBI and OSI, and reduce overall treatment costs.

## “Of Mice & Men: Stroke, Brain Trauma, Infection: Use Beta Blockers: Connecting the Dots.”

*BG Dr Gerald D Griffin MD PhD*  
MC US Army

The etiology of infection in stroke and brain injury is reviewed, with a focus on the immune system response. Antibiotic therapy is examined, and compared with the use and addition of beta blockade. The mechanism of action and immune system interaction is examined. The suggestion of combined specific antibiotic and beta blocker therapy is explained.

## “Effect of Targeted Strength, Endurance and Coordination Exercise on Neck pain among Danish F-16 Pilots; a Randomized Controlled Trial.”

*Lange, Toft, Andersen, Myburgh, Sjøgaard*  
Royal Danish Air Force

### **Introduction**

Objectives of this study was to determine the prevalence and intensity of neck pain among F-16 pilots and explore the effectiveness of a 24-weeks three-times-a-week training program.

### **Methods**

Fifty-five F-16 pilots were randomized to training group (TG, n=27) or control group (CG, n=28). The primary outcome was reduction in neck pain over the previous three months and previous seven days. Analysis of data was by intention-to-treat.

### **Results**

At baseline 82% of the subjects experienced neck pain within the last year. At follow-up analyses of covariance revealed a clinically significant decrease from 2.0 to 0.9 in neck pain during the previous 3 months in the TG ( $p=0.01$ ) compared to the CG.

### **Discussion/Conclusion**

This is the first study to show the effect of training on neck pain reduction in high performance jet aircraft pilots. The mean pain intensity at baseline was found to be low. This to some extent could be attributed to participant characteristics.

## “Artificial blood clotting systems.”

*Cdr Stef Stienstra PhD*  
Royal Dutch Navy

### Introduction

Stopping the loss of blood is an important measure to save the lives of severe trauma patients. In disaster medicine and in out of area military operations the infrastructure for optimal trauma care is often not present. Several haemorrhage control systems are compared and an emergency blood component supply system, which does not need any infrastructure will be presented.

### Methods

The blood haemorrhage control by platelets, artificial platelets (synthocytes) and new products like QuickClot, HemCon, Arista, Ankaferd and Celox is compared in mode of action.

### Results

Fast haemorrhage control gives far better survival rate and quick delivery of proper fresh blood components improves the survival rates of the trauma patients even more. Fresh donor erythrocytes give quicker oxygen supply in the tissues.

### Discussion/Conclusion

External haemorrhage control systems like Ankaferd, which do not affect the clotting cascade, are essential to prevent blood loss as quickly as possible in the first aid procedure. The natural clotting system will take care of the internal bleedings and therefore an external bandage, which not waives clotting factors is preferred. Platelets, like the described platelets, which are stored in hibernation, help in healing the wounds and in disaster medicine a hollow fiber donor blood separation unit will help to obtain safe donor erythrocytes with high oxygen transport capacity.

## “Percutaneous Endoscopic Gastrostomy - An Essential Skill for the Military Surgeon?”

*E B Larkin<sup>1,2</sup>, MB BChir (Cantab), BChD, FRCS, FRCSEd, FDSRCS, DRCOG*  
<sup>1</sup> 612 Squadron, Royal (Auxiliary) Air Force, RAF, Leuchars, Fife, Scotland  
<sup>2</sup> University of Edinburgh, School of Medicine, Little France, Edinburgh, Scotland

### Introduction

The last two decades has seen unprecedented progress in the nutritional management of Head & Neck Oncology patients. The management of patients with multiple trauma, including major injuries to the Head & Neck has, by contrast, often been suboptimal.

### Methods

In 1998 a single Head & Neck surgeon was tasked with providing a nutritional service for all Head & Neck Oncology patients and those with significant cranio-facial trauma.

### Results

The outcome of percutaneous endoscopic gastrostomy (PEG) placement, performed by a single surgeon in 1,650 patients over 14 years, including 285 trauma patients is discussed, with a particular view to complications.

### Discussion/Conclusion

Assisted enteral feeding is an integral part of the management of the trauma patient. Patients with head injury, significant maxillofacial trauma, and neck injuries often have little other option.

PEG placement is a “minimal access, maximally invasive” procedure. It is, however, essentially safe, and within the potential skills framework of all competent surgeons.

Crucially, it is safer than nasogastric tube placement, and should be a core ability of the trauma surgeon.

## “Mortality & Morbidity of Combat Neck Injury.”

*E B Larkin<sup>1,2</sup>, J Breeze,<sup>3</sup>*

<sup>1</sup> 612 Squadron, Royal (Auxillary) Air Force, RAF, Leuchars, Fife, Scotland

<sup>2</sup> University of Edinburgh, School of Medicine, Little France, Edinburgh, Scotland

<sup>3</sup> Royal College of Defence Medicine, University Hospitals, Birmingham, UK

### Introduction

The overall incidence of face and neck injuries has increased from the 20th to 21st Century.

### Methods

All neck wounds sustained by UK servicemen between 1st January 2006 and 31st December 2010 were analysed.

This included post mortem records examined by the UK Home Office Pathologist, and clinical records from University Hospitals, Birmingham.

### Results

11% of battle injured from UK service personnel incurred neck wounds.

In 72 of 98 (73%) of casualties who died from wounds that included a neck wound, the cause of death was directly attributable to the neck wound.

Mortality of an explosive wound to the neck was 49/120 (41%)

78% of deaths were from vascular injury (88% of which were carotid or internal jugular vein).

### Discussion/Conclusion

The relatively high incidence of neck wounds in UK personnel was not shared by US soldiers.

It is considered that inadequate and poorly designed neck protection, and crucially, reluctance to wear it is responsible for this.

There is an urgent operational requirement to redesign neck protection for UK personnel currently deployed on operations.

## “Mild Traumatic Brain Injury (mtbi) – shell shock of the 21st Century? Concussion or Somatoform Stress Reaction.”

*Col Karl-Heinz Biesold MD*

Military Hospital, German Armed Forces

At the end of the 19th century the German neuropsychiatrist Hermann Oppenheim (1857 – 1919) created the term “traumatic neurosis” and described a general affection of the nervous system following traumatic events with various nervous disorders and symptoms that could not be explained physiologically.

In World War I a lot of soldiers developed a number of combat stress reaction symptoms of the motoric nervous system called shell shock, (Kriegszitterer), which was considered a psychiatric illness resulting from injury to the nerves during combat. After the first gulf war a lot of combatants came back home and suffered from unexplained somatoform symptoms as headache, nausea, vomiting, dizziness/balance problems, fatigue, insomnia/sleep disturbances, drowsiness, sensitivity to light/noise, blurred vision, disturbances in remembering and/or concentrating on something . At present, the comparable symptoms are seen as symptomatic of mild traumatic brain injuries.

More than hundred years and still the same questions: somatic disturbances ore “only” psychological disorder is it easier to accept the diagnose to suffer from a brain disease than from a stress reaction? This presentation shall be deemed to be an invitation to discuss the causes of mental health problems.

## “The Importance of 3D-Modeling in the Pre-operative Planning of Complex Facial Reconstruction by a Vascularized Composite Tissue Allotransplantation (VCTA) of the Face.”

*Phillip Blondeel, M.D., Ph.D.<sup>1</sup>, Hubert Vermeersch, M.D., Ph.D.<sup>2</sup>, Nathalie Roche, M.D.<sup>1</sup>, Filip Stillaert, M.D.<sup>1</sup>*

<sup>1</sup> Gent University Hospital, Belgium - Department of Plastic, Reconstructive and Aesthetic Surgery

<sup>2</sup> Gent University Hospital, Belgium – Department of Head and Neck Surgery

### Introduction

Extreme trauma to the central part of the face is difficult to reconstruct with traditional autologous pedicled or free flaps. The only way to restore vital facial functions of the face in one single procedure is to perform a VCTA.

### Methods

A 56 yrs. old man, victim of a ballistic trauma, lost his maxillo-facial bony structure from the skull base down. All soft tissues in the central and lower 2/3rd of the face were absent. Digital 3D imaging was used to recreate the 3D model of the missing bone and to create osteotomy jigs both for the donor and the acceptor.

### Results

In a 20 hrs surgical procedure, the largest amount of bone ever was allo-transplanted together with the soft tissues of the entire lower 2/3rd of the face. Survival of the graft was complete.

### Discussion/Conclusion

The first VCTA face transplant in Belgium (#19 in the world) was successful because of a meticulous 3 year planning with a large team. 3D-modeling and preparatory cadaver dissections have proven to be essential for a fluent intra-operative course and a superb bony alignment.

## “Deep circumflex iliac artery free flap reconstruction of the mandible.”

*E B Larkin<sup>1,2</sup>, MB BChir (Cantab), BChD, FRCS, FRCSEd, FDSRCS, DRCOG*

<sup>1</sup> 612 Squadron, Royal (Auxillary) Air Force, RAF, Leuchars, Fife, Scotland

<sup>2</sup> University of Edinburgh, School of Medicine, Little France, Edinburgh, Scotland

Martin D Paley<sup>3</sup>, MB BChB, BDS, FRCS(OMFS), FFDRCSI

<sup>3</sup> Consultant Maxillofacial /Head & Neck Surgeon, NHS Lothian, University Hospitals Division

### Introduction

The last 30 years has seen great advances in hard and soft tissue reconstruction of facial structures destroyed by malignant disease and trauma. Vascularised bone free flap reconstruction is now the technique of choice for significant defects of the mandible.

### Methods

In 2005 the 2 authors were tasked with modernising a failed maxillofacial reconstruction service for Edinburgh and the Lothian region of Scotland.

### Results

7 years experience of the use of this free flap is presented in reconstruction of the dentate mandible and in significant defects of the maxilla.

### Discussion/Conclusion

This presentation is aimed at the non specialist, so that suitable patients for the technique can be identified. A brief overview of technique is presented, with a discussion of the benefits in terms of function and aesthetics and with particular emphasis on possible donor site morbidity, of particular relevance in the young patient with a military injury.

## “Traumatic vessel injury of the neck – Treatment and Outcome.”

*P.T. Fellmer, MD, PhD<sup>1,2</sup>; M. Moche, MD, PhD<sup>3</sup>; I. Matia, MD<sup>1,2</sup>; S. Jonas, MD, PhD<sup>1</sup>*

<sup>1</sup> Department of General-, Transplant-, Thoracic- and Vascular Surgery,

<sup>2</sup> Division of Vascular Surgery

<sup>3</sup> Department of Radiology, Division of interventional Radiology

### Introduction

Traumatic injury to the cervical vessels is a life-threatening event in most cases. Since blunt trauma to the neck is more common in civilian circumstances and penetrating trauma more war-related the education of the “Einsatz-Chirurg” remains difficult. More than 80% of German Medical Officers regard the treatment of cervical vessel injuries as a challenging event.

### Methods

The PubMed Database was searched for the keywords “neck vessel injury”, “trauma vessel injury” and all related articles were reviewed. Personal experience with the subject was evaluated.

### Results

Traumatic injury to the cervical vessels even in a trauma centre remains a rare and seldom event. Within more than 300 patients with vessel injury referred to the University of Leipzig only three patients presented with injury to the cervical vessels. Among 50.000 Articles dealing with traumatic injury to vessels only 1400 Articles focus on cervical vessels.

### Discussion/Conclusion

The incidence of patients with injury to the cervical vessels remains very low, therefore the education of Medical Officers, especially for Surgeons should focus on alternative education tools like animal models.

## “Radiology of Battlefield Head and Neck Trauma.”

*R. N. J. Graham<sup>1,2,3</sup>*

<sup>1</sup> Royal Naval Reserve, HMS FLYING FOX, Bristol, UK

<sup>2</sup> Royal United Hospital, Bath, UK

<sup>3</sup> Royal National Hospital for Rheumatic Diseases, Bath, UK

### Introduction

The head and neck are both vulnerable to battlefield trauma. The imaging of battlefield head and neck trauma is vital to facilitate its management.

### Methods

An education presentation on imaging battlefield head and neck trauma based on the author's operational experience as a consultant radiologist at the UK Role 3 Hospital in Afghanistan.

### Results

Learning objectives:

1. Appreciate the mechanisms of injury in battlefield head and neck trauma
2. Describe the ideal imaging pathway in battlefield head and neck trauma
3. Understand the advantages and disadvantages of plain film, ultrasound, multi-detector computed tomography and magnetic resonance imaging in the imaging of battlefield head and neck trauma

### Discussion/Conclusion

Head and neck trauma is prevalent in battlefield injury and advanced imaging techniques are vital to its correct management.

## “A brief overview of the standardisation agreement (STANAG) on military forensic dental identification.”

*J. Kosel<sup>1</sup>, C. Hemmer*

<sup>1</sup>Sanitätsamt der Bundeswehr, München, Germany

Within the North Atlantic Treaty Organization (NATO) there are different institutions that deal with various topics. Among them, the committee of the Chiefs of Military Medical Services in the NATO (COMEDS) is advising NATO's Military Committee on military medical matters regarding policies, doctrines, concepts, procedures, techniques, programmes and initiatives affecting NATO.

The Dental-Services-Expert-Panel within the COMEDS structure is staffing doctrine and procedures on techniques, on tasks and on the interchange of information for all aspects of dental and maxillofacial care in the operational environment.

One example of current EP-DS topics/activities is STANAG 2464 (military forensic dental identification).

## “Evaluation of the Role of ENT Surgeon in a Theater Operation: Experience of the French KAIA Role 3.”

*M Kossowski, Y Pons, M Raynal, P Le Page.*

Service ORL, HIA Percy. Clamart (France)

### **Introduction**

Since October 2011, French ENT surgeons are sent to KAIA role III hospital in Kaboul. This decision is in relation with the fact that the incidence of injuries of head and neck increases (up to 40%) during the different conflicts and wars these last years.

### **Méthodes utilisées**

We propose to study the different cases, observed in KAIA hospital since the opening of this role III hospital, which needed the intervention of an ENT surgeon.

### **Results**

Since October 2011, about 20 cranio facial and cervical injuries has been treated at KAIA hospital, for local population and ISAF.

### **Discussion/Conclusion**

If generalist surgeon is able to do the damage control, even in neck injury, he has often many difficulties in front of cranio-facial injuries, even with a neurosurgeon. And sometime, for special lesions (like laryngeal injuries) damage control is not sufficient: there is less sequellaes when the repair is immediate. Though, the presence of an ENT surgeon on the theatre is necessary.

## “Experience from ISAF mission in neurosurgical practice.”

*U.H Kunz, UM Mauer, M.Bode, Ch.Schulz, R.Naraghi*

Neurosurgical department of military hospital Ulm part of the university of Ulm, Germany

### **Introduction**

The activity in the ISAF mission caused first after world war II in a few cases the necessity of neurosurgical operation in the field hospital.

### **Methods**

The cases of the field hospitals in ISAF mission were evaluated and registered for neurosurgical head injuries with participation of the brain.

### **Results**

Before 2007, when no german neurosurgeon was in the mission only one german soldier get a missile injury to the brain. In beginning of the german neurosurgical activity no german cases were seen up to 2009 when a soldier sitting in the top of a tank got an epidural hematoma after blast injury. A total of 190 surgeries were performed up to 10/2011. Of these, 50 operations (26.3%) were acute procedures that were conducted to save lives or preserve neurological function. In addition, operations included 47 urgent (24.7%) and 93 elective (49%) procedures. There were 58 cranial surgeries (30.5%), 113 spinal surgeries (59.5%), 11 peripheral nerve surgeries (5.8%), and 8 miscellaneous surgeries (4.2%). Surgical treatment was provided to 13 International Security Assistance Force (ISAF) soldiers (6.8%), 22 members of the Afghan National Security Forces (11.6%), and 155 Afghan civilians (81.6%). Exemplary cases will be shown with there results and the hospital possibilities. The helmet give fragments of floor origin the possibility to make lazeration in posterior fossa seen in two cases of blast injuries.

### **Discussion/Conclusion**

Up to now low fighting activity was in the north region. A low frequence made the question of the necessity of a great number of neurosurgeons in the battlefield. The loss of this faculty in Afghani-stan needs a neurosurgeon for the ANA soldiers which has a higher incidence of brain injuries and nearly no experience in treatment. The very good helmet figure can be discussed for better protection in posterior fossa.

## “Terapeutic potential of p.r.g.f. in regenerative medicine. Use in oral surgery.”

*Miguel M. DUTOR VIDAL*

MD, DDS, Spain

Plasma Rich in growth factors is a system for obtaining platelet proteins. Are autologous proteins obtained from the patient's own blood just before surgery and as a therapeutic application. Your application accelerates the repair and regeneration mechanisms of various tissues.

Multiple uses in oral surgery, bone augmentation, regeneration of soft tissue and fracture healing are routinely used to obtain predictable results.

The simplicity of this technique makes it of use in other areas of Medicine.

## “Design Validation of Military Ballistic Cervical Protection through development of a novel numerical injury model.”

*E B Larkin<sup>1,2</sup>, J Breeze<sup>3</sup>*

<sup>1</sup> 612 Squadron, Royal (Auxillary) Air Force, RAF, Leuchars, Fife, Scotland

<sup>2</sup> University of Edinburgh, School of Medicine, Little France, Edinburgh, Scotland

<sup>3</sup> Royal College of Defence Medicine, University Hospitals, Birmingham, UK

### Introduction

A review of all 1202 injured UK soldiers over the last 6 years revealed that 138 (11%) had neck wounds. The incidence in US soldiers over this period has been 3%.

The overall incidence of GSW/explosive wounds remains similar, as does the incidence of head and face wounds.

The difference between injury in UK and US personnel is explained by the uptake of neck protection.

### Methods

This research is aimed at deriving a numerical model of neck wounds to simulate combat neck injury from fragments and to use that model to validate acceptable neck protection.

Characterization of neck injury from explosive fragments requires post mortem and clinical evaluation of mortality & morbidity, surface wound mapping of fragment entry site, and explosive fragment analysis of mass, velocity and shape.

### Results

Outcome of research to date is presented.

### Discussion/Conclusion

There is an urgent operational requirement to redesign neck protection for UK personnel currently deployed on operations. CIOMR would be a useful forum to enable design ideas to be better coordinated between nations.

## “The Joint Position Sense of the Cervical Spine in Patients With Unilateral Neck-Shoulder-Arm Pain of Radicular Origin.”

*D. Bagaianu, V. Stevens, E. Bernard, N. Duvigneaud,  
JL Leflot, H Vander Straeten, JP Deleuze, D. Van Tiggelen*  
Military Hospital Queen Astrid, Brussels, BELGIUM

### Introduction

The restoration of proprioception and motor control is prerequisite in the musculoskeletal rehabilitation prior to the start of strengthening and conditioning exercises. An impaired joint position sense (JPS) has been demonstrated in chronic neck pain and whiplash associated disorders. It is unknown whether the JPS is altered in radicular pain patients.

### Methods

16 patients (9 males, 7 females) with unilateral neck-shoulder-arm pain of radicular origin (8 left and 7 right sides) were included in this study. The joint position sense was assessed by testing the ability of the blindfolded patient to relocate the head in a mid-range position of 30° rotation in the transverse plane with an ultrasound-based coordinate measuring system (CMS 70P, Zebris Medizintechnik GmbH).

### Results

The Wilcoxon Signed Rank test indicated a significant difference between the repositioning error of 3.7° (+/-2.03°) on the uninvolved side and a mean error of 5.4° (+/- 2.7°) on the involved side ( $p = 0.034$ ).

### Discussion/Conclusion

Although a level of statistical significance ( $p < 0.05$ ) was reached in this sample, it should be noticed that beside overall small repositioning errors, 25% of the patients demonstrated a smaller repositioning error on the involved side compared to the uninvolved side.

## “Prise en charge d’un traumatisme de la colonne cervicale au sein du détachement médical belge en role-0 ou role-1.”

*Colonel Dominique GJA DI DUCA*

Defense Belge – 3EMI

### **Introduction**

Est-il aisé pour les équipes médicales de l’avant de prendre en charge une victime d’un traumatisme, potentiel ou avéré, de la colonne cervicale dans les circonstances tactiques telles que nous les rencontrons en théâtre opérationnel.

### **Methodes utilisées**

L’expérience, la vie et les connaissances permettent la formation et le training. Les situations civiles et militaires permettent d’harmoniser la prise en charge des traumatismes en général et de la colonne vertébrale en particulier.

Cependant, même si des règles strictes de prise en charge existent en traumatologie générale, les règles de TCCC ajoutées aux situations militaires rendent les principes et techniques de bases très difficilement applicables.

Lors de divers séjours en milieu opérationnel, nous avons veillé à préparer au mieux le personnel des équipes médicales et autres à une prise en charge.

### **Resultats**

En se basant sur le principe du « train as you fight », l’exposé tentera d’expliquer comment, au sein d’un détachement belge déployé au Liban en 2006 et 2008 et en Afghanistan en 2010-2011 et 2012, il a été tenté d’organiser au mieux la prise en charge d’un traumatisme de la colonne vertébrale et cervicale en particulier.

### **Discussion/Conclusion**

Il est démontré et confirmé que les concepteurs d’équipement militaire individuel (tenue de travail) ou collectif (véhicules), s’ils envisagent un haut taux de protection balistique, envisagent très peu le travail des équipes médicales en cas d’accident.

## “Advancement in the Treatment of Abdominal Injuries Sustained on the Battlefield, Lessons Learned in Surgical Techniques, Resuscitation and Post Operative Care.”

*MG Robert J. Kasulke MD MPA FACS*

Commanding General, Army Reserve Medical Command, USAR

There have been numerous medical and surgical lessons learned in our decade’s long experience with treating those who have been wounded on the battlefield.

I will concentrate my presentation on the resuscitation, surgical treatment and post operative care of those who have sustained abdominal injuries.

I will discuss major changes in operative techniques and fluid resuscitation in this cohort of wounded patients and stress the clinical results, specifically the decrease in mortality that is the direct result of these paradigm shifts.

I will include in my presentation:

Blood and fluid resuscitation.

“Temporizing” surgery

Advances in wound care and wound closure

Patient transportation

Many of the concepts in my presentation will be new to the audience, and indeed, did not exist in the standard medical – surgical armamentarium before 2002.

## “Veterinary public health in Germany”

**Silke B. Neuling**

District Department for Veterinary Health Luckenwalde, Germany

### Introduction

About 75% of the new diseases that have affected humans over the past 10 years have been caused by pathogens originating from an animal or from products of animal origin. Many of these diseases have the potential to spread through various means over long distances and to become global problems.

In addition a number of well known and preventable animal diseases that can be transmitted to humans (i.e. zoonoses) such as rabies, brucellosis and leishmaniasis continue to occur in many countries especially in the developing world where they mostly affect the poorest segment of the human population. They cause a serious amount of deaths and millions of affected people every year.

### Methods

The core domains of Veterinary Public Health (VPH) include the following: diagnosis, surveillance, epidemiology, control, prevention and elimination of zoonoses and food protection.

### Results

We give a report about non-well known animal diseases (zoonosis) in Germany like swine flu, echinococcosis, bovine tuberculosis, infection with hantavirus and usutu virus and possibilities of protection.

### Discussion/Conclusion

Veterinary public health is an essential part of public health and includes various types of cooperation between the disciplines that link the health triad, people-animals-environment, and all of its interactions.

## “Psychosocial Support Training Platform”

**J. Kowalski<sup>1</sup>, H. Jacobs<sup>1</sup>, J. Ungerer<sup>1</sup>, W. Mack<sup>2</sup>**

<sup>1</sup> Center for Military Mental Health, Germany

<sup>2</sup> Institute of Psychology, Dep. General Psychology, FernUniversitaet in Hagen, Germany

A training platform is presented, its goals, technical make-up and the training methods implemented.

The training platform aims at the improvement of primary prevention of psychotraumatic disorders during the preparation for deployments. It uses a blended training setting. The computer platform offers 12 modules. They include psychoeducation of stress and stress management, psychotraumatic situations and posttraumatic stress disorder, training of cognitive habits in deployment situations to foster resilience, and confrontation with stressful situations on deployment followed by communication or relaxation techniques with biofeedback.

The poster introduces details of these elements, their didactic principles, and the course of its development and evaluation.

**“Mass affliction irritable bowel syndrom:  
Usage study with high-dose Probiotics  
- with particular reference to physical and psychological stress.”**

**LTC Mathias Oldhaver**

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