Results: Eleven C135FR have been modified to accommodate the medical solution. The technical platform includes patient care modules (intensive care modules accommodating one mechanically ventilated patient; light care modifiable modules) and logistical modules (two racks, one preparation table, one centralized monitoring area). The medical team includes two anesthesiologists, three anesthesiology nurses, two emergency physicians, two nurses, two MEDEVAC nurses, and one medical specialist or liaison officer.
Conclusions: The MORPHEE system and its successful operational missions emphasize the versatility and efficiency of a solution based on mission-tailored "plug and play" modules easily and quickly installable aboard a non-dedicated aircraft.
Keywords: aero-evacuation; intensive care unit; military
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"Doctor on Board": What is the Optimal Skill-Mix in Military Helicopter CASEVAC?

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Introduction: Military prehospital times may be extended due to geographical or operational issues. The skill-mix of the prehospital team may vary. The aim of this study was to quantify the contribution of a physician to military prehospital care.
Methods: Joint Force Medical Command Afghanistan Medical Emergency Response Team (MERT) missions were entered into a prospective log. Patient nationality, mechanism of injury, and whether the doctor was required to perform a medical intervention during the mission were recorded.
Results: A total of 324 recent MERT missions retrieved 429 patients. The median number of patients was 1 (range 1–13). Of the troops, 56% were local nationals and 44% were coalition troops. Twenty-two percent were T1, 52% were T2, 21.5% were T3, and 4% were dead. A total of 48% patients had blast injuries, 25% had gunshot wound/s (GSWs), six patients had blast and GSWs. A total of 41 patients (9.5%) were medical, 23 (5%) received injuries in road traffic collisions, and 42 patients had other diagnoses. Median time from take-off to delivery of the casualty was 44 minutes (range 10–183 minutes). A doctor flew on 88% missions; the doctor was thought unnecessary in 77%. Of the missions where a doctor was useful, the commonest intervention was rapid sequence induction (45%), other interventions included provision of analgesia, sedation or blood products, chest drain or thoracostomy and pronouncing life extinct.
Conclusions: The MERT is a high-value asset that makes an important contribution to patient care. A relatively small proportion of missions require interventions beyond the capability of well-trained military paramedics.
Keywords: helicopter; military; physician; prehospital
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2008 Air Base 4 Clinic "Tenente Coronel Médico Viriato Garrett" Aerial Evacuations/Search and Rescue and in Flight Emergency Response

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Introduction: Air Base 4 clinic, a NATO "role 1" health unit, "Tenente Coronel Médico Viriato Garrett" scrambles medical teams for patients or injured people in need of air-medical evacuation, search-and-rescue, and/or in-flight emergencies.
Objective: The objective of this study was to characterize patients, diagnosis, and drug therapy involved in air-medical evacuations/search-and-rescue and in-flight emergencies in 2008.
Methods: This was an objective, cross-sectional, and descriptive study.
Results: Twenty passengers were evaluated following 19 in-flight emergencies (interruptions in commercial airliners). There was a predominance of males and acute cardiovascular pathology was most common. There were 13 patient air-medical evacuations from ships, with traumatic injuries and gastroenterology issues prevailing (analgesics and antiemetics were most widely administered). Eight search-and-rescue missions were accomplished, but in only one situation was a medical intervention needed to assist seven crew members with 1st degree burns, who were hoisted from a fishing vessel, then flown to a hospital.
Conclusions: Due to its central geostrategic location at the crossroads of transatlantic shipping and air lanes, Lajes Air Base plays an essential role in the stabilization and transportation of ill persons from vessels and also provide medical care to emergencies developing in commercial and military flights.
Keywords: air evacuation; in-flight emergencies; military medicine; search and rescue
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Role of Local-Regional Analgesia during Medical Evacuation

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Today, local-regional analgesia represents a simple and effective alternative to deep sedation or general anesthesia during medical transport of patients with severe traumatic injuries. Particularly for patients with fractures and/or penetrating injuries of the extremities, shoulder and/or thorax, local-regional analgesia could be performed using safe and simple methods, thus, avoiding or reducing the need for administering central nervous system depressants. Moreover, the use of long-lasting local anesthetics (e.g., L-bupivacaine) mixed with short acting local anesthetics (e.g., lidocaine) induce a rapid analgesic block. The use of an electrical nerve stimulator has no contraindications in the severely injured trauma patient, and permits a quick and precise localization of the nerves and pleuxus even by relatively unskilled attendants.

Using the tool facilitates the reception of data and creates a snapshot, which enables a global vision of the functioning

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of the hospital in the different treatment sites. This overview facilitates focusing on the weak points of the hospital. Hence, the results assist in drawing conclusions that enable improvement in future exercises and responses to real events.

Keywords: analgesia; medical evacuation; prehospital
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Main Importance of Training in Air-Medical Evacuation

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Introduction: Air-medical evacuations are performed by military and civilian organizations, often in cooperation with each other or in a conjugated way. Evacuations are an important resource for out-of-hospital medicine. It is required in the most diverse situations, from the simple transport between health units to the aid of victims of catastrophes.
Methods: The aim of this study was to characterize the type and quality of medical assistance provided in-flight by the Portuguese Air Force, and analyze the healthcare provided.
Results: Medical assistance, in the aeronautical context, does not constitute a concrete professional area in Portugal. However, although, great progress has been achieved. As a consequence of the high deficit of training observed, there still is a dissonance between the theoretical ideologies and the practice, which compromises the quality of the assistance provided.
Conclusions: Medical assistance in air-medical evacuation missions always should be performed by medical crew members with strong knowledge and abilities. This only is possible by eradicating the lack of training, and by establishing training models and requirements that will overcome the existent deficits.

Keywords: air-medical evacuations; medical assistance; Portuguese Air Force; training.
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Aero-Space Medical Challenges

Military-Technical Cooperation—Portugal-Mozambique in Aeronautic Medicine

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In the scope of the Military-Technical Cooperation with the Republic of Mozambique, the Portuguese Air Force has participated in the Project 3—"Support to the Organization and Functioning of Marshal Samora Machel Military Academy". The Air Force has responsibilities for advising the implementation of the aeronautic pilot degree.

In the search to guarantee the sustainability of the project, the advice given extended beyond the academic dimension and also included the areas of selection and medical support.

Through an initial assessment of the needs, and awareness that aeronautic medicine constitutes one of the necessary foundations to a safe practice in all aviation activities, the creation of an Aeronautic Medicine Department was considered.

The essential conditions, and the process for candidate selection for the aeronautic pilot course were determined. In addition, regular medical updates were provided to those already enlisted.

The procedures/norms must be adjusted to the Mozambican reality, considering the socio-cultural differences and the inherent particularities to the influence of the specific diseases of this African region.

Participation in the aeronautic medicine training allowed for a wide and mutual experience.

Keywords: aeronautic medicine; cooperation; Mozambique; Portuguese Air Force
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Civil-Military Relationships

Evolution of Civil-Military Relationship Concept in NATO: Requirements for Medical Cooperation in the Field of Reconstruction and Development

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This presentation highlights the evolution of requirements, capabilities, and the role of NATO in contributing to reconstruction and development (R&D) efforts in theaters of operation. The audience will learn about the three levels of civil-military medical cooperation (tactical, operational, and strategic).

The aim of this presentation is to identify, on a demand-driven basis, how NATO military medical actors in synergy with national and international civilian actors, can help to meet the needs for R&D support in operations.

Specific objectives:

1. To provide an overview of the needs for military engagement in R&D support in operations;
2. To deepen and broaden the knowledge of the relevant R&D support provided by the civilian international community in the theaters of operation; and
3. To identify key NATO military medical capabilities that can help meet the needs of operational commanders as well as of the authorities of the host nation in their R&D efforts.

The participants will receives guidance in outlining the definition and scope of civil-military medical cooperation; receive insight on the area of interest and responsibility for NATO; and a common understanding on where Alliance medical forces can add value in civil-military relationships and specifically in R&D efforts.

Keywords: civil-military relationship; scope of cooperation; medical cooperation; reconstruction and development efforts
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Migrants' Health—New Challenges

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At the beginning of the 21st Century, the world is witnessing an unprecedented movement across geopolitical, cultural, and epidemiological borders. Each year, appoximately 200 million people, 8% of the world population, cross the borders of his/her country of origin. Approximately one million registered persons permanently cross the EU external borders each year.

Migrants reflect the conditions and medical background (including health beliefs and health behavior) of their

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