

**NORTH ATLANTIC TREATY ORGANIZATION
ORGANISATION DU TRAITE DE L'ATLANTIQUE NORD**

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AIR BOARD

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STANAG 3204 AMD (EDITION 6) - AEROMEDICAL EVACUATION

References:

- a. MAS(AIR)49-AMD/3204 dated 23 February 1998 (Edition 6) (Ratification Draft 1)
- b. MAS(AIR)5-AMD/3204 dated 1 February 1995 (Edition 5)

1. The enclosed NATO Standardization Agreement which has been ratified by nations as reflected in page iii is promulgated herewith.
2. The references listed above are to be destroyed in accordance with local document destruction procedures.
3. AAP-4 should be amended to reflect the latest status of the STANAG.

ACTION BY NATIONAL STAFFS

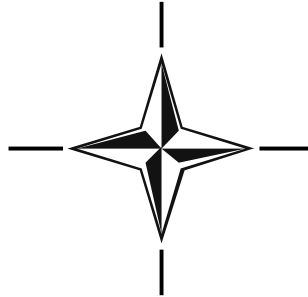
4. National staffs are requested to examine page iii of the STANAG and, if they have not already done so, advise the Air Board, MAS through their national delegation as appropriate of their intention regarding its ratification and implementation.

A. GRØNHEIM
Major General, NOAF
Chairman MAS

Enclosure:

STANAG 3204 (Edition 6)

**NORTH ATLANTIC TREATY ORGANIZATION
(NATO)**



**MILITARY AGENCY FOR STANDARDIZATION
(MAS)**

**STANDARDIZATION AGREEMENT
(STANAG)**

SUBJECT: AEROMEDICAL EVACUATION

Promulgated on

A. GRØNHEIM
Major General, NOAF
Chairman, MAS

NATO/PfP UNCLASSIFIED

RECORD OF AMENDMENTS

No.	Reference/date of amendment	Date entered	Signature
1	MAS(AIR)1113-AMD/3204 dated September 1999	13 September 1999	BRIXHE, F.

EXPLANATORY NOTES

AGREEMENT

1. This NATO Standardization Agreement (STANAG) is promulgated by the Chairman MAS under the authority vested in him by the NATO Military Committee.
2. No departure may be made from the agreement without consultation with the tasking authority. Nations may propose changes at any time to the tasking authority where they will be processed in the same manner as the original agreement.
3. Ratifying nations have agreed that national orders, manuals and instructions implementing this STANAG will include a reference to the STANAG number for purposes of identification.

DEFINITIONS

4. Ratification is "In NATO Standardization, the fulfillment by which a member nation formally accepts, with or without reservation, the content of a Standardization Agreement" (AAP-6).
5. Implementation is "In NATO Standardization, the fulfillment by a member nation of its obligations as specified in a Standardization Agreement" (AAP-6).
6. Reservation is "In NATO Standardization, the stated qualification by a member nation that describes the part of a Standardization Agreement that it will not implement or will implement only with limitations" (AAP-6).

RATIFICATION, IMPLEMENTATION AND RESERVATIONS

7. Page iii gives the details of ratification and implementation of this agreement. If no details are shown it signifies that the nation has not yet notified the tasking authority of its intentions. Page iv (and subsequent) gives details of reservations and proprietary rights that have been stated.

FEEDBACK

8. Any comments concerning this publication should be directed to NATO/MAS - Blvd Léopold III - 1110 Brussels - BE.

Agreed English/French Texts

STANAG 3204
(Edition 6)

NAVY/ARMY/AIR

NATO STANDARDIZATION AGREEMENT
(STANAG)

AEROMEDICAL EVACUATION

- Annexes:
- A. Terminology
 - B. Selection of Patients for Aeromedical Evacuation
 - C. Classification and Documentation of Patients for Aeromedical Evacuation
 - D. Aeromedical Aircrew Procedures
 - E. Equipment and General Procedures used in Aeromedical Evacuation
 - F. Aeromedical Evacuation Training

- Related Documents:
- STANAG 2040 MED - STRETCHERS, BEARING BRACKETS AND ATTACHMENT SUPPORTS
 - STANAG 2087 MED - MEDICAL EMPLOYMENT OF AIR TRANSPORT IN THE FORWARD AREA
 - STANAG 2128 MED - MEDICAL AND DENTAL SUPPLY PROCEDURES
 - STANAG 2132 MED - DOCUMENTATION RELATIVE TO MEDICAL EVACUATION TREATMENT AND CAUSE OF DEATH OF PATIENTS
 - STANAG 3198 AMD - FUNCTIONAL REQUIREMENTS OF AIRCRAFT OXYGEN EQUIPMENT AND PRESSURE SUITS
 - STANAG 3345 AT - DATA/FORMS FOR PLANNING AIR MOVEMENTS
 - AGARD-AG-340 - AIRCRAFT DISINFECTION: A GUIDE FOR MILITARY & CIVILIAN AIR CARRIERS

AIM

1. The aim of this agreement is to standardize the terminology, procedures, training and equipment used in the aeromedical evacuation of sick and wounded personnel, in order to facilitate the transport of patients of one NATO nation in the aircraft of any other NATO nation.

AGREEMENT

2. Participating nations agree that the provisions detailed in the attached Annexes A to F will be applied as minimum requirements in the aeromedical evacuation of personnel.

DEFINITIONS

3. The terms and definitions used in this agreement are listed at Annex A.

IMPLEMENTATION OF THE AGREEMENT

4. This STANAG is implemented when a nation has issued the necessary orders/instructions to the forces concerned putting the procedures detailed in this agreement into effect.

TERMINOLOGY

The following terms and definitions are used for the purpose of this agreement.

AEROMEDICAL EVACUATION

1. The movement of patients under medical supervision to and between medical treatment facilities by air transportation.

AEROMEDICAL EVACUATION CONTROL CENTRE (AECC) *

2. The control facility established by the commander of an air transport division, air force, or air command. It operates in conjunction with the command movement control centre and co-ordinates overall medical requirements with airlift capability. It also assigns medical missions to the appropriate aeromedical evacuation elements in the system and monitors patient movement activities.

AEROMEDICAL EVACUATION COORDINATING OFFICER (AECO) *

3. An officer of an originating, in-transit or destination medical facility/ establishment who co-ordinates aeromedical evacuation activities of the facility/ establishment.

AEROMEDICAL EVACUATION OPERATIONS OFFICER (AEOO) *

4. An officer of the airlift force or command who is responsible for activities relating to planning and directing aeromedical evacuation operations, maintaining liaison with medical airlift activities concerned, operating an Aeromedical Evacuation Control Centre, and otherwise co-ordinating aircraft and patient movements.

ORIGINATING MEDICAL FACILITY *

5. A medical facility that initially transfers a patient to another medical facility.

* Definitions taken from AAP-6 "NATO GLOSSARY OF TERMS AND DEFINITIONS FOR MILITARY USE - ENGLISH AND FRENCH".

CASUALTY STAGING UNIT (CSU)

6. The CSU is a theatre medical unit caring for in-transit patients under physician level supervision, located on or in the vicinity of an air base or strip. It provides:

- a. Reception and administration of patients arriving from an OMF.
- b. Review of patient priority, classification, and dependency.
- c. Appropriate medical control, maintenance of stabilization, nursing and feeding of patients.
- d. Patient tracking and reporting in co-ordination with AECO.
- e. A storage/transfer/exchange point for medical supplies and equipment.
- f. A temporary holding facility for up to 50 patients, with the capability to transfer up to 200 patients over 24 hours.
- g. A means to transport patients to airframes.

IN TRANSIT EVACUATION FACILITY (IEF)

7. The IEF is a medical facility located rearwards or near the theatre, capable of the following functions:

- a. Act as a multinational focus for national strategic AE.
- b. Accomplish all the CSU functions.
- c. Have an expandable holding capacity.
- d. Provide role/echelon 3 care.

AEROMEDICAL CREW MEMBER

8. An Aeromedical Crew Member is a medical officer, nurse, nursing attendant or other ancillary medical person who forms part of a constituted aeromedical in-flight team.

* Definitions taken from AAP-6 "NATO GLOSSARY OF TERMS AND DEFINITIONS FOR MILITARY USE - ENGLISH AND FRENCH".

MEDICAL OFFICER

9. A male or female, of a nation's medical service or branch, who possesses a nationally recognised qualification in medicine. A medical officer may also be specially trained in aerospace medicine and may then be referred to as a "Flight Medical Officer" or "Flight Surgeon".

NURSE

10. A male or female, of a nation's medical service or branch, who possesses a nationally recognised general nursing qualification. A nurse may also be specially trained for aeromedical duties and then be referred to as a "Flight Nurse".

NURSING ATTENDANT

11. A male or female, enlisted in the ranks of a nation's medical service or branch, who does not possess a nationally recognised general nursing qualification. A nursing attendant may be given special training to qualify him or her for aeromedical duties.

WALKING PATIENT *

12. A patient not requiring a stretcher while in transit.

STRETCHER PATIENT

13. A patient requiring stretcher accommodation while in transit.

FORWARD AEROMEDICAL EVACUATION *

14. That phase of evacuation which provides airlift for patients between points within the battlefield, from the battlefield to the initial point of treatment, and to subsequent points of treatment within the combat zone.

TACTICAL AEROMEDICAL EVACUATION *

15. That phase of evacuation which provides airlift for patients from the combat zone to points outside the combat zone, and between points within the communications zone. *Also called "intra-theatre aeromedical evacuation". See also strategic aeromedical evacuation.*

* Definitions taken from AAP-6 "NATO GLOSSARY OF TERMS AND DEFINITIONS FOR MILITARY USE - ENGLISH AND FRENCH".

STRATEGIC AEROMEDICAL EVACUATION *

16. That phase of evacuation which provides airlift for patients from overseas areas or from theatres of active operations, to the home base, to other NATO countries or to a temporary safe area. *Also called "intertheatre aeromedical evacuation". See also tactical aeromedical evacuation.*

STRETCHER

17. Throughout this document the word "stretcher" is used also to mean "litter".

* Definitions taken from AAP-6 "NATO GLOSSARY OF TERMS AND DEFINITIONS FOR MILITARY USE - ENGLISH AND FRENCH".

SELECTION OF PATIENTS FOR AEROMEDICAL EVACUATION

FITNESS FOR AIR TRAVEL

1. Patients selected for transportation by air must be cleared for the proposed flight by an aeromedically trained medical officer either at the originating facility, a casualty staging unit, or an en-route medical facility, or, in his absence, by other competent aeromedical authority. The medical officer must balance casualty fitness considerations with the availability of suitable in-flight medical attention; the urgency of treatment in a reception area; the operational situation; and the operational capabilities of the available airlift aircraft.

FORWARD AEROMEDICAL EVACUATION

2. In forward aeromedical evacuation, the paramount need is to transport the patient to the initial point of treatment as quickly as possible. Helicopters and V/STOL aircraft will be used for airlift.

3. The principles for the conduct of aeromedical evacuation in forward areas, including priority of movement, scheduling, decisions as to whom should be evacuated and the provision of medical escorts, will be as established in STANAG 2087 - MEDICAL EMPLOYMENT OF AIR TRANSPORT IN THE FORWARD AREA.

TACTICAL (INTRATHEATRE) AND STRATEGIC (INTERTHEATRE)
AEROMEDICAL EVACUATION

4. In these types of operation, the benefit to the patient of transfer to an area where appropriate medical facilities are available must be balanced against the ability of the patient to withstand the anticipated environmental conditions of the flight.

5. When aeromedical evacuation is carried out with helicopters, vibration (causing resonance of damaged body structures), turbulence (causing motion sickness), noise (making communication difficult), and a cramped and ill-lit interior (making in-flight care less available) are all problematic. In unpressurized fixed-wing aircraft, hypoxia and expansion of gas in bodily cavities may worsen the condition of a casualty; these problems are lessened in pressurized aircraft but not totally eliminated.

6. In wartime aeromedical evacuation, however, conditions may often be much less favourable. Account must be taken of the effects on the prospective passenger of significant changes in atmospheric pressure and cabin temperature, turbulence, the work load on a hard-pressed in-flight medical team with restricted facilities, and due regard paid to the aircraft type and flight plan.

CLINICAL SELECTION CRITERIA

7. There are no absolute contra-indications to aeromedical evacuation. Each case must be judged on its merits, weighing the advantage to the patient of transfer against the possible harmful effects of the flight. Sometimes a calculated risk must be taken. However, as a guide it would be wise to accept the following types of patients only when there is no other acceptable means of transport:

- a. Patients in the infective stage of serious communicable diseases. If any are carried, appropriate precautions must be taken for the protection of other occupants.
- b. Sick and wounded whose general condition is such that they may not survive the flight.
- c. Patients whose upper and lower jaws are immobilized. Such patients require constant supervision by persons who are competent and equipped to remove the tie materials immediately should the patient become airsick or vomit. Fixation by intermaxillary elastics is preferable to wire because of ease of cutting.
- d. Pregnant patients who are beyond the 250th day of pregnancy are not routinely acceptable for aeromedical evacuation, but may be moved if determined necessary to the patient's mental and/or physical health by competent medical authority.

8. Patients with any of the following conditions require special consideration in selection for aeromedical evacuation, particularly in unpressurized aircraft:

- a. Respiratory embarrassment. Patients whose unaided vital capacity is less than 900 ml should not normally be moved by air without a mechanical respirator.
- b. Cardiac failure or early post-myocardial infarction.
- c. Severe anaemia, i.e. less than 2.5 million red blood cells per cubic millimetre or less than 7 grams haemoglobin per 100 millilitre estimated as near as possible to the proposed flight and not more than 72 hours beforehand.
- d. Trapped gas within any of the body cavities, e.g. pneumothorax, bowel obstruction or acute sinusitis. Post-laparotomy or thoracotomy patients

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should not normally be moved within 10 days of operations except in pressurized aircraft.

- e. Patients with psychiatric conditions require special consideration before being allowed to emplane. Past psychiatric disease, excessive nervousness, flight phobias etc must all be borne in mind. Prior to flight all patients should have been kept under observation long enough to assess their suitability for nursing care during flight.

9. Patients with critical medical or surgical conditions (e.g. penetrating wounds or injuries of the chest or abdomen) should be stabilized if at all possible before aeromedical evacuation. Unstable or recently stabilized patients shall be accompanied by a medical officer who should, where possible, be an appropriately qualified specialist.

CLASSIFICATION AND DOCUMENTATION OF PATIENTS FOR
AEROMEDICAL EVACUATION

CATEGORIZATION OF CASUALTIES

1. The system of categorising casualties that is used for aeromedical evacuation provides the medical and movements staff responsible for co-ordinating the movement of casualties with a simple means of assessing the urgency, medical support needs and space requirement of each casualty without a need to refer to detailed clinical information which may not be readily available. Patients are allocated codes for Priority, Dependency and Classification.

PRIORITY

2. Patients for aeromedical evacuation will be given appropriate degrees of priority so that, if aircraft space is limited, the more urgent patients may be evacuated before those whose conditions is less serious. The degrees of priority are:

- a. Priority 1/URGENT. Emergency patients for whom speedy evacuation is necessary to save life or limb, to prevent complication of serious illness or to avoid serious permanent disability.
- b. Priority 2/PRIORITY. Patients who require specialized treatment not available locally and who are liable to suffer unnecessary pain or disability unless evacuated with the least possible delay.
- c. Priority 3/ROUTINE. Patients whose immediate treatment requirements are available locally but whose prognosis would definitely benefit by air evacuation on routine scheduled flights.

DEPENDENCY

3. The assessment of dependency recognises the need to move patients who have been stabilized but whose condition remains unstable, possibly requiring intensive support in flight. The degrees of dependency are:

- a. Dependency 1 - High Dependency. Patients who require intensive support during flight. For example, patients requiring ventilation,

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monitoring of central venous pressure and cardiac monitoring. They may be unconscious or under general anaesthesia.

- b. Dependency 2 - Medium Dependency. Patients who, although not requiring intensive support, require regular, frequent monitoring and whose condition may deteriorate in flight. For example, patients who have a combination of oxygen administration, one or more intravenous infusions and multiple drains or catheters.
- c. Dependency 3 - Low Dependency. Patients whose condition is not expected to deteriorate during flight but who require nursing care of, for example, simple oxygen therapy, an intravenous infusion or a urinary catheter.
- d. Dependency 4 - Minimal Dependency. Patients who do not require nursing attention in flight but who might need assistance with mobility or bodily functions.

CLASSIFICATION

4. The classification defines the patient's requirement for space in the aircraft and for physical assistance. In addition it describes any requirement for the physical restraint or supervision of psychiatric patients.

- a. Class 1 - Neuropsychiatric Patients:
 - (1) Class 1A - Severe Psychiatric Patients. Patients who are frankly disturbed and inaccessible, and require restraint, sedation and close supervision.
 - (2) Class 1B - Psychiatric Patients of Intermediate Severity. Patients who do not require restraint and are not, at the moment, mentally disturbed, but may react badly to air travel, or commit acts likely to endanger themselves or the safety of the aircraft and its occupants. These patients need close supervision in flight and may need sedation.
 - (3) Class 1C - Mild Psychiatric Patient. Patients who are co-operative and have proved reliable under pre-flight observation.
- b. Class 2 - Stretcher Patients (Other than Psychiatric):
 - (1) Class 2A - Immobile Stretcher Patients. Patients unable to move about of their own volition under any circumstances.
 - (2) Class 2B - Mobile Stretcher Patients. Patients able to move about of their own volition in an emergency.
- c. Class 3 - Sitting Patients (Other than Psychiatric):

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- (1) Class 3A - Sitting patients, including handicapped persons, who in an emergency would require assistance to escape.
 - (2) Class 3B - Sitting patients who would be able to escape unassisted in an emergency.
- d. Class 4 - Walking Patients. Walking patients, other than psychiatric, who are physically able to travel unattended.

DOCUMENTATION

5. Each patient will be tagged with a medical record in accordance with STANAG 2132 - DOCUMENTATION RELATIVE TO MEDICAL EVACUATION, TREATMENT AND CAUSE OF DEATH OF PATIENTS.

6. All appropriate medical documents pertaining to the patient will be placed in an envelope and accompany the patient to the medical facility at the final destination. The envelope will be marked with the patient's name, rank, serial number, nationality, organization, date of departure, and destination.

7. Manifests of patients carried on each aircraft engaged in tactical or strategic aeromedical evacuation will be prepared in accordance with STANAG 3345 TN - DATA/FORMS FOR PLANNING AIR MOVEMENTS; copies will be prepared for base operation, the originating aeromedical evacuation facility, each intermediate stop, the destination terminal, and the medical facility at the final destination.

8. Whenever the operational situation permits, clinical information shall be forwarded to the AECC as far in advance of the evacuation as is practicable.

AEROMEDICAL AIRCREW PROCEDURES

COMPOSITION OF AEROMEDICAL CREWS

1. Aeromedical crews will consist of flight nurses and/or nursing attendants specially trained in aeromedical evacuation duties, supplemented where necessary by medical officers and other ancillary medical personnel. Aeromedical Crew Members are, whenever possible, to fly as constituted crews and are to be trained on all medically relevant aspects of the aircraft type on which they are to operate.
2. The recommended minimum scale for staffing aeromedical crews for Dependency 4 patients and excluding Class 4 patients who require no escorts is:
 - a. 1-10 patients - 1 aeromedical crew member.
 - b. 11-20 patients - 2 aeromedical crew members (if possible one should be a nurse).
 - c. 21-40 patients - 3 aeromedical crew members (if possible at least one should be a nurse).
 - d. 41-60 patients - 4 aeromedical crew members (if possible at least two should be nurses).
3. Additional requirements are:
 - a. For Dependency 1 patients the aeromedical crew shall include:
 - (1) For 1 or 2 patients: a physician trained in intensive care medicine and who has received training in aviation medicine.
 - (2) For 3 or 4 patients: a physician trained in intensive care medicine and an additional physician, at least one of whom has received training in aviation medicine.
 - (3) For each patient: a nurse trained in intensive care nursing.
 - (4) A technician competent to maintain aeromedical life support equipment.
 - b. For Dependency 2 patients the aeromedical crew shall include:

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- (1) A physician trained in aviation medicine.
 - (2) For up to 10 patients and for each additional 10 patients: a flight nurse and a nursing attendant.
- c. For Dependency 3 patients the aeromedical crew shall include a flight nurse.
4. Additional trained medical personnel may be assigned when, in the opinion of the dispatching medical officer, the condition of any of the patients warrants this.

AEROMEDICAL CREW TRAINING

5. Ground instruction is required on the special problems associated with in-flight nursing, loading and unloading of patients, emergency procedures, and methods of documentation, etc. In addition, practical experience in the air is essential (see Annex F).

AEROMEDICAL CREW EQUIPMENT

6. Appropriate medical and general equipment and supplies adequate for the care of the number and types of patients transported will be available. In planning aeromedical equipment needs, provision should be made for the unexpected e.g. delays, diversions or in-flight emergencies.

BRIEFING OF PATIENTS

7. A member of the aeromedical crew or an aircrew member must brief all patients, paying special attention to the following points:
- a. A number of walking patients will be detailed to assist with the evacuation of stretcher patients in any emergency.
 - b. Safety belts and stretcher harnesses are to be properly fastened in accordance with orders given by the captain.
 - c. Safety belts and harnesses are also to be correctly re-fastened immediately in any emergency.
 - d. Smoking is to be restricted to the places and times authorized by the captain.
 - e. The direct or indirect orders of the captain and the medical team are to be obeyed immediately at all times.

EMERGENCY PROCEDURES IN FLIGHT

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8. All aeromedical team members involved in the aeromedical evacuation of patients will be thoroughly trained and experienced in the measures necessary for evacuating the aircraft in an emergency. These measure will include the following procedures appropriate to each type of aircraft:
- a. Warn the patients prior to any crash landing, ditching or other emergency.
 - b. Consideration should be given to moving stretcher patients into passengers seats, if the circumstances permit. All other stretcher patients should be properly secured and remain on their stretcher until after the aircraft comes to a complete halt.
 - c. Instruct the patients on the proper position to assume in preparing for an emergency. Flight crews/aeromedical teams will ensure that seat safety harnesses have been tightened.
 - d. After the aircraft has come to a complete halt, walking patients, with the exception of those designated to assist stretcher patients, will be the first to leave the crashed aircraft.
 - e. Free immobile stretcher patients from stretcher and assist them to leave the aircraft. Stretchers will not normally be removed from their fastenings in view of the limited time available to evacuate the aircraft.
 - f. Mentally disturbed patients should be sedated so that the orderly removal of other patients will not be jeopardized.

IN-FLIGHT FEEDING OF PATIENTS

9. Provision will be made for supplying both normal and modified diets to patients during flight. The medical facility delivering the patient to the aircraft is to ensure that adequate food (including special diets where necessary) is available for all aeromedical flights to meet the needs of patients and which can be prepared within the cooking capability on board the aircraft.

PERSONAL PROPERTY AND VALUABLES

10. Personal property and valuables will be safeguarded as far as possible. Patients will not be permitted to transport firearms, ammunition, weapons, or any other article (e.g. aerosol containers or portable electronic equipment containing batteries) that could become a hazard during flight.

EQUIPMENT AND GENERAL PROCEDURES USED IN AEROMEDICAL
EVACUATION

AIRCRAFT EQUIPMENT

1. Aeromedical aircraft stretchers and stretcher support systems shall meet the following requirements:
 - a. Suitable stretcher supports will be provided, for example rigid posts or webbing straps, that are light in weight and which may be easily stowed in the aircraft when it is used for other purposes.
 - b. The dimensions of stretchers and stretcher supports will be as detailed in STANAG 2040 - STRETCHERS, BEARING BRACKETS AND ATTACHMENT SUPPORTS, except that stretchers in aeromedical use may be supported other than by their feet.
 - c. A satisfactory stretcher safety harness should be provided that will protect each stretcher patient against the accelerations likely to be encountered in flight, or during heavy landing or ditching.
 - d. The stretcher installation shall provide sufficient space to allow aeromedical personnel to care for each patient. Stretcher supports should allow the vertical tracking distance between stretchers to be at least 46 cm (18 inches). Stretchers shall be as nearly horizontal as possible in flight.
 - e. The stretcher support, stretcher and stretcher harness system should be capable, while loaded with a 114kg human dummy, of supporting and restraining the dummy when exposed to short duration accelerations of up to +9Gz, -6Gz, -9Gx and ±6Gy.
2. The aircraft shall be provided with:
 - a. Adequate passenger compartment lighting and power outlets for the operation of electrical medical equipment.
 - b. A supply of oxygen of sufficient quantity to satisfy therapeutic and emergency requirements, either through the aircraft oxygen system or by suitable portable oxygen supplies.

AEROMEDICAL ELECTRICAL EQUIPMENT

3. All electro-medical equipment used in aeromedical evacuation is to be cleared by the relevant national authority for the aircraft on which it is to be used. Suggested minimum specifications of such equipment are at Appendix 1.

PREFLIGHT INSPECTION OF AEROMEDICAL EQUIPMENT

4. For aircraft operating in the aeromedical evacuation role, the following equipment checks appropriate to the aircraft type will be carried out:
- a. Stretcher suspension straps, stanchions, and clamps will be checked to ensure serviceability and proper security.
 - b. All aeromedical evacuation equipment will be checked in order to ensure proper functioning. The equipment should be properly secured to withstand turbulent air conditions.
 - c. The loading of patients, survival equipment, etc will be carried out in accordance with safety precautions and existing instructions for the particular aircraft.
 - d. Stretcher patients will be secured by means of safety harnesses.
 - e. Any other medical equipment in the aircraft will be checked and made secure.
 - f. Immediately prior to take-off, the proper functioning of the cabin telephone and of other communication devices will be checked.
 - g. Oxygen outlets will be checked including their adaptability to therapeutic oxygen kits. The adequacy of oxygen supply will also be checked.
 - h. When electrically operated medical equipment is to be used, all such equipment should have been tested for electromagnetic compatibility and clearance given for the particular type of aircraft in which it is to be operated.

DISINFECTION OF AIRCRAFT

5. The interior of the aircraft and such articles as cutlery, crockery, stretchers blankets, sheets, medical equipment etc, will require disinfection after the carriage of patients with infectious conditions, including open pulmonary tuberculosis. Appropriate procedures are:

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- a. General Aircraft Disinfection. When considered necessary by the competent medical authority in order to prevent dangerous exposure to other persons, aircraft interiors should be sprayed with an approved disinfectant, closed for at least an hour, and then well ventilated.
- b. Cutlery and Crockery Disinfection. This should be done by immersing the articles in a suitable dilute disinfectant for twenty minutes prior to washing in the normal manner.
- c. Disinfection of Medical Equipment. Medical equipment will be sterilized.
- d. Disinfection of Stretchers and Bedding. This should be done by normal washing and, where appropriate, by steam or hot air disinfection.

NOTE: Other nationally approved disinfecting procedures may be used to supplement or replace any of the above procedures.

DISINSECTION OF AIRCRAFT

6. Attention is drawn to the fact that disinsection of aircraft may also be a requirement under certain conditions. Guidance on disinfection is provided in AGARD-AG-340.

GROUND EQUIPMENT

7. a. Unloading and Loading Apparatus. Ramps or mechanised lifting platforms will be required to permit loading and unloading of patients from aircraft where a high clearance exists between the ground and the aircraft fuselage door, and there is no built-in aircraft loading lift. Ramps should be covered as a weather protection for patients where loading or unloading cannot be done under cover (e.g. in a hangar).
- b. Cooling Apparatus. Whenever possible, in areas where high shade temperatures are commonly encountered, cooling apparatus should be provided for controlling temperatures within the aircraft during the period when patients are inside, and during loading and unloading.
- c. Heating Apparatus. Whenever possible, in areas where very low temperatures are commonly encountered, heating apparatus should be provided for warming the interior of the aircraft during the period when patients are inside with the aircraft engines cut off and during loading and unloading.

PROPERTY EXCHANGE

8. Property exchange will be carried out where possible in accordance with STANAG 2128 - MEDICAL AND DENTAL SUPPLY PROCEDURES. Equipment expended in the care and treatment of patients will be replenished using normal resupply procedure.

SIGNALS PROCEDURE

9. In an operational scenario routine signals procedures will be heavily used and may become overloaded. It is impossible to dictate the use of a specific system, but alternative methods of message transfer for aeromedical evacuation information must be considered. Whatever system is chosen, it may only be possible to send limited information; however, the minimum information required will be:

- a. Flight plans for aircraft will indicate:
 - (1) That the aircraft is on an aeromedical evacuation mission, or is carrying evacuation patients, and the total number of patients.
 - (2) The highest medical priority of any patient aboard.
- b. The following additional information is essential, and should be included in the flight plan and/or transmitted by the aeromedical evacuation facility at the point of departure to the AECC and the receiving medical facility when the military situation permits:
 - (1) Number of patients in the various classes (see Annex C).
 - (2) Number of female patients.
 - (3) Essential clinical information on seriously and very seriously ill patients.
 - (4) Essential clinical information on patients requiring treatment at special centres, e.g. burns, maxillofacial or thoracic injuries.

SUGGESTED SPECIFICATIONS FOR ELECTROMEDICAL EQUIPMENT

Alarms

1. a. Audio. All audio equipment should be capable of generating a variable sound level up to 110dB.
 - b. Visual. All indications of normal function should be displayed in GREEN; all abnormal functions and alarms in RED.
 - c. Commonality. When equipment modules are grouped together, all resultant audio signals should be ultimately generated from a common outlet to limit confusion and noise levels.
2. Visual Displays. All visual displays should be visible both in bright sunlight and total darkness.

Power Supply

3. a. Mains. All equipment should be able to work on 220/240 110/115 and 28 volt supplies. Current Converters should be cleared for use on the aircraft carrying the equipment.
 - b. Battery. All equipment should have internal batteries which are either small enough to be readily transported and exchanged when necessary, or large enough to provide power for full-specification function for at least 8 hours.
 - c. Failure. All equipment should have automatic battery-powered function in the event of mains failure. Switch-over should be signalled.
 - d. Battery Charge. All equipment should provide warning of low charge one hour before failure. Failure should be signalled.
4. Temperature. All equipment should be capable of operating in temperatures ranging -10°C to +50°C.
5. Humidity. All equipment should be capable of operating in conditions of 0-100% humidity.

6. RS232 Interface. All equipment should have an RS 232 interface for ultimate automatic data collection.
7. Vibration and Shock. All equipment should pass vibration and shock tests to a standard laid down by appropriate authorities.

AEROMEDICAL EVACUATION TRAINING

The following sequence of lectures, films, and demonstrations is given as a guide for the aeromedical evacuation training of nursing and medical personnel as required:

1. Lecture on history of aeromedical evacuation, the scope of current air routes, and the advantages and disadvantages of aeromedical evacuation.
2. Lecture on the effects of flight on health and diseases (to include clinical criteria and decisions on fitness to fly.)
3. Lecture on Priorities and Classifications.
4. Demonstration of oxygen equipment and ancillary equipment.
5. Lecture on the organization of aeromedical evacuation in war.
6. Demonstration of types of aircraft currently used for aeromedical evacuation - to include methods of loading and unloading, oxygen points, harnesses and emergency equipment.
7. Lecture on the forms in current use e.g. medical, movements, customs and health control.
8. Lecture on the duties of the various aeromedical crew members and the air quarter-master/load master.
9. Decompression chamber run and practical demonstration of hypoxia if possible.
10. Film on aeromedical evacuation.
11. Demonstration of types of stretcher and other medical equipment, documentation and tags, (including dangerous air cargo procedures) and restraining apparatus etc.
12. Demonstration of, and participation in, drills for ditching, crash landing and survival (to include wet dinghy drills if).

13. Lecture on emergency procedures in flight, including briefing of patients (as detailed in Annex D, paragraphs 4 and 5).
14. Lecture by aeromedical crew member, including demonstration of in-flight medical documentation.
15. Lecture on aeromedical evacuation of special patients such as cases of infectious disease, spinal injury etc.
16. Interview and examination.
17. Flight familiarization.
18. Demonstration of loading, unloading and reception of patients (if possible, actual patients).
19. Further training, to include practical experience on aeromedical evacuation flights, under the supervision of an aeromedical attendant, or experienced nursing attendant, until such time as the trainee is proficient.
20. Medical officers should be trained in Advanced Cardiac and Advanced Trauma Life Support and in chemical casualty management skills.