

NATO STANDARD

AMedP-8.12

**MILITARY ACUTE TRAUMA CARE
TRAINING**

**Edition A Version 1
JULY 2015**



NORTH ATLANTIC TREATY ORGANIZATION

ALLIED MEDICAL PUBLICATION

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NATO LETTER OF PROMULGATION

14 July 2015

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Edvardas MAZEIKIS
Major General, LTUAF
Director, NATO Standardization Office

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RECORD OF SPECIFIC RESERVATIONS

| [nation] | [detail of reservation] |
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| BGR | The standard requirements will be applied fully for physicians' training. For nurses' training they will be implemented with limitations: not to apply para. 2.2.2 E (1), (3), (4), (6), (12), (13) and para 2.2.3 K due to legal restrictions on their qualification. The standard will not be applied for paramedics' training since, currently, there are no established positions for paramedics in the Bulgarian Forces. |
| CZE | CZE applies the following reservations to AMedP-8.12(A): 1. Chapter 2.2.2 Primary Survey, point f(6): CZE does not use Tranexamic acid during Primary Survey. Training of Tranexamic acid application is not provided. 2. Chapter 2.2.3 Secondary Survey, point k(3): CZE does not train Paediatric trauma score assessment. |
| DEU | Due to the German division of labor between medical specialists, German nurses, with exception of E.R. and anesthesiological personnel, are not primarily trained to provide traumatologic first-aid as laid down in this STANAG. They receive the same training as every other soldier concerning first aid. Further training, e.g. acute trauma care, is provided if necessary for the planned assignment in theatre. |
| FRA | France will not implement in extenso the training content of Chapter 2, but will focus on tactical care, and the content of Chapter 3 will be limited in keeping with combat rescue training reference standards, including within the context of mass casualties (MASCAL). France recalls that STANAG 2122, referenced in AMedP-8.12, was ratified with reservations. |
| LVA | LVA National Armed Forces will reference STANAG 2544 requirements for qualification of Latvian physicians, nurses, medics and other military personnel in accordance with NATO requirements and guidance in Military Medicine. Requirements of nurses in the STANAG 2544 exceeds limits set by Latvian legislation therefore LVA nurses are entitled only partially apply STANAG 2544. |
| NLD | The Netherlands agree with the intention of the STANAG. The Netherlands will not be able to apply all standards and requirements for all military medical personnel as mentioned. |
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| <p>Note: The reservations listed on this page include only those that were recorded at time of promulgation and may not be complete. Refer to the NATO Standardization Document Database for the complete list of existing reservations.</p> | |

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| CHAPTER 1 INTRODUCTION |
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1.1. BACKGROUND

Military medical personnel (i.e. physicians, nurses and medics) at all levels must possess certain individual skill sets in Acute Trauma Care to be able to participate in most of the multinational Medical Modules described in STANAG 2560. To improve interoperability, acute trauma care training for NATO forces must meet standards acceptable to all participating nations, as opposed to national support to national contingents, which only requires national acceptance. In a multinational setting, medical personnel at different levels must be able to provide an acceptable standard of acute trauma care and demonstrate outcomes of skill sets enabling them to give treatment equating to best medical practice.

NATO military operations have become increasingly multinational. This allows more nations to participate and also to use their medical assets more efficiently. However, international medical cooperation also poses challenges due to differences between nations' medical standards and due to legal constraints. To improve the outcome of acute trauma care treatment in a multinational scenario, common standards and procedures are essential for the outcome of treatment of patients, especially in a Major Incident/MASCAL situation. This raises a demand for standardized training of medical personnel in military acute trauma care.

1.2. AIM

The purpose of this AMedP is to standardize the skills in acute trauma care and medical management in a Major Incident/MASCAL situation by all medical personnel and any other military personnel, who are going to participate in peace supporting missions and/or armed conflicts, and to produce guidance for the training of such personnel.

As training should lead to the systematic acquisition of knowledge and psychomotor skills, this publication addresses both contents and format of that training.

1.3. SCOPE AND LIMITATIONS

Training in military acute trauma care should be made available to medical personnel and any other military personnel that might take part in peace supporting missions and/or armed conflicts.

Teaching materials have to be sent to students well in advance.

Training in general and tactical trauma skills will take at least 2 days.

After successfully completing the training students will receive a certificate, valid for a period which is defined at national discretion, but should preferably be not more than 5 years.

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| CHAPTER 2 REQUIREMENTS FOR TRAINING OF GENERAL TRAUMA SKILLS AND KNOWLEDGE |
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2.1. PSYCHOMOTOR SKILLS

All medical health care personnel delivering acute trauma care should be able to assess an Acute Trauma Patient and deliver appropriate care in a logical sequence.

Depending on the level of previous training and on legal constraints not all personnel will be able and/or allowed to apply certain skills.

2.2. KNOWLEDGE/THEORY

2.2.1. List of subjects

The following list of subjects should be taught, adapted to each category of personnel as regards depth and width:

- a. Introduction:
 - (1) Background and aims for standardised trauma treatment in civilian life
 - (2) The phases and principles in management of the injured, including primary survey/resuscitation, secondary survey, reassessment and evacuation

- b. Basics:
 - (1) The influence of the environment in the widest sense on "what is possible and what is not", "what should be done and what should be avoided"
 - (2) The necessity of having a system of care that is adaptable to actual circumstances
 - (3) Injury prevention – Basic strategies, e.g. reduction of speed limits

- c. Kinetics:
 - (1) Energy and force as they relate to trauma
 - (2) Laws of motion energy
 - (3) The description of blunt, penetrating and blast injuries
 - (4) Description of process of cavitation
 - (5) The kinematics of penetrating injuries

- d. Triage:
 - (1) Reasons for, principles and categories of the triage system
 - (2) Triage for treatment vs. Triage for evacuation
 - (3) Difficulties in applying the triage system
 - (4) Allocation of priorities to casualties and factors to be taken into account

- e. Assessment/treatment:
 - (1) Primary Survey
 - (2) Secondary Survey

2.2.2. Primary Survey

The following list of subjects should be taught, adapted to each category of personnel as regards depth and width.

- a. Airway and C-spine:
 - (1) Anatomy of the airway
 - (2) Symptoms, signs and treatment of (partial) obstruction (internal/external)

- b. Breathing:
 - (1) Signs on impaired breathing
 - (2) Oxygen, mouth-to-mouth/mouth-to-mask breathing, i.e. Exhaled Air Resuscitation (EAR), Cardiopulmonary Resuscitation (CPR) and Intermittent Positive Pressure Ventilation (IPPV)
 - (3) Life threatening thoracic injuries
 - (4) Symptoms, signs and treatment of:
 - (a) Tension pneumothorax
 - (b) Flail chest
 - (c) Open pneumothorax
 - (d) Massive haemothorax

- c. Circulation:
 - (1) Shock
 - (a) Definition
 - (b) Types
 - (c) Classification of shock
 - (d) Symptoms and signs
 - (e) Treatment
 - (f) Response

- d. Disability/neurologic status:
 - (1) Glasgow Coma Scale / AVPU
 - (2) Pupillary reaction
 - (3) Major motor defects
 - (4) Spinal shock/ neurogenic shock

- e. Adjuncts:
 - (1) X-ray and ultrasound
 - (2) Pulsoxymetry
 - (3) Nasogastric intubation
 - (4) Bladder catheterisation
 - (5) ECG
 - (6) AMPLE history
 - (7) Capnometry
 - (8) Tourniquets
 - (9) Field dressings
 - (10) Splint systems
 - (11) Supraglottic airway devices
 - (12) Ultrasound (FAST)
 - (13) Intraosseous devices

- f Medication:
 - (1) Analgesia
 - (2) Antibiotics
 - (3) Tetanus-Toxoid
 - (4) Intravenous fluids
 - (5) Haemostatic agents
 - (6) Tranexamic acid

- g. Patient Warming

2.2.3. Secondary Survey

The following list of subjects should be taught, adapted to each category of personnel as regards depth and width:

- a. Head and neck:
 - (1) Maxillofacial
 - (a) Anatomy
 - (b) Symptoms and signs of different fractures
 - (c) Emergency measures

- (2) Skull:
 - (a) Anatomy
 - (b) Symptoms and signs of injury (blunt/penetrating) to skin, bone and brain
 - (c) Emergency measures

- (3) Larynx:
 - (a) Symptoms and signs
 - (b) Treatment

- (4) Large blood vessels:
 - (a) Symptoms and signs
 - (b) Treatment

- (5) Scalp:
 - (a) Symptoms and signs
 - (b) Treatment

- (6) Brain injuries:
 - (a) Symptoms and signs
 - (b) Treatment

- (7) Cervical vessels:
 - (a) Symptoms and signs
 - (b) Treatment

- b. Thorax:
 - (1) Symptoms, signs and treatment of blunt and/or penetrating injuries:
 - (a) Disruption of aorta
 - (b) Disruption of tracheobronchial tree
 - (c) Disruption of oesophagus
 - (d) Diaphragmatic rupture
 - (e) Simple haemothorax
 - (f) Lung contusion
 - (g) Myocardial contusion
 - (h) Simple pneumothorax
 - (i) Tension pneumothorax
 - (j) Rib fracture
 - (k) Flail chest
 - (l) Traumatic asphyxia

- c. Abdomen/pelvis:
 - (1) Anatomy
 - (2) Examination:
 - (a) External markings
 - (b) Bowel sounds
 - (c) Pelvic and rectal examination
 - (d) Ultrasound / Diagnostic peritoneal lavage (DPL)
 - (e) Impaled objects
 - (f) Evisceration

- d. Spine:
 - (1) Examination
 - (2) Emergency measures

- e. Limbs:
 - (1) Examination
 - (2) Compartment Syndrome
 - (3) Haemorrhage
 - (4) Fractures and dislocations
 - (5) Splints
 - (6) Amputations
 - (7) Crush syndrome
 - (8) Emergency measures

- f. Eye injuries:
 - (1) Symptoms and signs
 - (2) Emergency measures

- g. Hyperthermia
 - (1) Symptoms and signs
 - (2) Emergency measures

- h. Burns:
 - (1) Thermal/chemical/electrical
 - (2) Size (rules of nines) and depth
 - (3) Inhalation injuries
 - (4) Emergency measures
 - (5) Hazards of overhydration
 - (6) Fasciotomy – Risk and Benefits.

- i. Hypothermia
 - (1) Symptoms and signs
 - (2) Emergency measures

- j. Freezing injuries
 - (1) Symptoms and signs
 - (2) Emergency measures

- k. Paediatric
 - (1) Signs and symptoms
 - (2) Assessment (Primary Survey, height and weight range, ventilation rates)
 - (3) Assessment (Blood pressure, Paediatric verbal score, Paediatric trauma score)
 - (4) Specific injuries (spinal, abdominal, thoracic, extremities, burns, jumpstart algorithm)

- l. Pregnancy/women:
 - (1) Anatomy and physiology
 - (2) Pattern of injury
 - (3) Specific treatments
 - (4) Rape

- m. Elderly:
 - Special considerations

- n. Drowning, lightning, diving and altitude:
 - (1) Physiological factors
 - (2) Mechanisms of injury
 - (3) Related injuries
 - (4) Assessment
 - (5) Prevention

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| CHAPTER 3 | REQUIREMENTS FOR TRAINING OF TACTICAL TRAUMA SKILLS AND KNOWLEDGE |
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3.1. PSYCHOMOTOR SKILLS

1. All military medical health care personnel delivering acute trauma care should be able to assess an Acute Trauma Patient and deliver appropriate care in a logical sequence.
2. It should be understood, that the actual circumstances in which acute trauma care is delivered, influence what care can/should be delivered. The following differentiation can be made:
 - a. Care under fire.
 - b. Tactical field care (care in the field with limited equipment in possibly unsafe circumstances).
 - c. Care during casualty evacuation. Medical Evacuation (MEDEVAC) is a medically controlled process of moving patients, while Casualty Evacuation (CASEVAC) stands for moving of patients without medical support.
 - d. Major Incident/MASCAL scenarios.
3. Depending on the level of previous training and on legal constraints not all personnel will be able and/or allowed to apply certain skills.

3.2 KNOWLEDGE/THEORY

3.2.1. General subjects

The following list of subjects should be taught, adapted to each category of personnel as regards depth and width:

- a. Introduction:
 - (1) Differences between the military and the civilian trauma scene
 - (2) Background and aims for standardised trauma treatment in certain tactical scenarios
- b. Basics:
 - (1) The influence of the environment in the widest sense on "what is possible and what is not", "what should be done and what should be avoided"

- (2) The necessity of having a system of care that is adaptable to actual circumstances
- c. Kinetics:
 - (1) Refreshing basic principles of kinetics – including blunt, penetrating and blast injuries
 - (2) Special focus on damage caused by high energy weapons
- d. Triage:
 - (1) Principles for triage (triage for treatment) with respect to the tactical situation
 - (2) Principles for triage (triage for evacuation) with respect to the tactical situation
- e. Extrication techniques:
Applied to relevant military vehicles

3.2.2. Care under fire

The following list of subjects should be taught, adapted to each category of personnel as regards depth and width:

- a. Protection:
 - (1) Return fire
 - (2) Do not get shot yourself
 - (3) Prevent additional injuries of the wounded (if possible)
- b. Stop life-threatening haemorrhage:
Temporary tourniquet

3.2.3. Tactical field care

The following list of subjects should be taught, adapted to each category of personnel as regards depth and width:

- a. Applying previously acquired general trauma skills and knowledge to the tactical situation
- b. Applying previously acquired knowledge regarding principles for triage (triage for treatment) to the tactical situation

3.2.4. Tactical medical evacuation care

The following list of subjects should be taught, adapted to each category of personnel as regards depth and width:

- a. Applying previously acquired general trauma skills and knowledge to a tactical medical evacuation scenario
- b. Applying previously acquired knowledge regarding principles for triage (triage for evacuation) to a tactical medical evacuation scenario

3.2.5. Major Incident/MASCAL scenarios

The following list of subjects should be taught, adapted to each category of personnel as regards depth and width:

- a. Applying previously acquired general and tactical trauma skills and knowledge to a Major Incident/MASCAL scenario
- b. Applying previously acquired knowledge regarding principles for triage for treatment and triage for transport to a Major Incident/MASCAL scenario.

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| CHAPTER 4 FORMAT OF TRAINING |
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4.1 GENERAL REMARKS

1. How to adapt treatment as a consequence of the actual circumstances should be explicitly taught, and parts of the courses for physicians, nurses and medics can be taught together; the course for other personnel should be separate
2. For teaching theory, psychomotor skills and other subjects a combination of short lectures, skills stations and discussions is recommended for all categories of personnel

4.2 LECTURES, SKILLS STATIONS, DISCUSSIONS

1. Short lectures will deal with the majority of knowledge items.
2. Skills stations for physicians, nurses and medics should include working on simulation mannequins.
3. For making triage and the consequences of different circumstances as regards assessment and treatment understood, discussion of cases/scenarios is necessary.

4.3 EXERCISE

1. A course is followed by a scenario-based field exercise.
2. Different categories of personnel should be exercised together.
3. During the exercise the medical Major Incident/MASCAL team(s) should be evaluated in accordance with STANAG 2560.

4.4 HANDS-ON TRAINING

Skill stations training are valuable in enabling a trainee to do the same skill many times. It is strongly recommended that to those trainees (physicians, nurses, medics), who will not have an almost daily contact with trauma victims, training opportunities are offered in a civilian Emergency Room, or operating theatre and with civilian Ambulance Service.

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| CHAPTER 5 GLOSSARY |
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This Glossary contains abbreviations used in this document.

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|---------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| AAP | Allied Administrative Publication |
| AMedP | Allied Medical Publication |
| AMPLE | Allergy, Medication, Past history, Last meal, Events |
| AVPU | Alert, Verbal, Pain, Unresponsive |
| CASEVAC | Casualty Evacuation |
| CPR | Cardiopulmonary Resuscitation |
| DPL | Diagnostic peritoneal lavage |
| EAR | Exhaled Air Resuscitation |
| ECG | Electrocardiogram |
| MASCAL | Mass Casualty |
| MEDEVAC | Medical Evacuation |
| METHANE | My call sign, Exact location of incident, Type of incident, Hazards at the scene, Access, Number and type of casualties, Emergency services required |
| NATO | North Atlantic Treaty Organisation |

AMedP-8.12(A)(1)