

NATO STANDARD

AMedP-1.10

**MEDICAL ASPECTS IN THE
MANAGEMENT OF A MAJOR
INCIDENT/MASS CASUALTY SITUATION**

**Edition A Version 1
DECEMBER 2015**



NORTH ATLANTIC TREATY ORGANIZATION

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NATO LETTER OF PROMULGATION

3 December 2015

1. The enclosed Allied Medical Publication AMedP-1.10, Edition A, Version 1, MEDICAL ASPECTS IN THE MANAGEMENT OF A MAJOR INCIDENT/MASS CASUALTY SITUATION, which has been approved by the nations in the Military Committee Medical Standardization Board is promulgated herewith. The agreement of NATO nations to use this publication is recorded in STANAG 2879.
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Director, NATO Standardization Office

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RECORD OF SPECIFIC RESERVATIONS

[nation]	[detail of reservation]
DNK	<p>As per Para. 2.4 CATEGORIZATION, part. 5: DNK cannot accept the limitations as far as the usage of triage category T4 is concerned, in that only the Theatre Medical Director can authorize the use of triage category 4 during a MASCAL situation. DNK reserves the rights to letting the Senior Medical Officer in charge to authorize the use of T4 in a MASCAL situation</p>
EST	<p>The EDF medical service ability to independently respond to MASCAL / major accident situations is very limited especially in CBRN environment. An adequate response to major emergencies is only possible in close cooperation with the national civil authorities, and/or with the support of partner countries.</p>
FRA	<p>France considers that, while only the SMO/MIO may establish that the management capabilities are not suited to the number of casualties, it is the responsibility of the Medical Theater Director to confirm this discrepancy and to declare the MASCAL situation after having reviewed possible ways of improving the medical support mechanisms (paragraph 1.3.4.).</p>
LVA	<p>Excluding Patient Evacuation Coordination Centre (PECC) and Medical Command and Control (C2 MED) due lack of capabilities, especially in units without designate medic for position Medical Incident Officer and Medical Coordination Officer assignment.</p>
NLD	<p>At the moment the Netherlands are using a three colour codes system instead of the required four in a multinational major incident MASCAL situation. These three colours are in line with the BATLS doctrine.</p>
USA	<p>(1) Reference 2.5.b. Radiation/Nuclear. The paragraph emphasizes thermal and blast injuries while not acknowledging that the most recent radiation/nuclear accidents involved exposure to radiation contaminants released as a result of natural or industrial and natural accidents. This accidental exposure on a large scale will present potentially different management and care scenarios that should be considered when responding to this type of MASCAL event. In addition, there is a need to consider the individual protection of medical personnel and of patients, and to provide collective protection facilities in which patients may be transported and treated.</p>
<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

1.1 PRELIMINARY

The aim of this AMedP-1.10 is to standardize the principles of the medical contribution to the management of a Major Incident or of a Mass Casualty (MASCAL) situation.

Participating nations agree:

- a. To employ medical principles applicable to Major Incidents/MASCAL situations.
- b. To prepare preparatory plans for Major Incidents/MASCAL situations, regularly carry out exercises and provide sufficient manpower and supplies.
- c. That Major Incident/MASCAL situations are demanding tasks to be dealt with by the Medical/Health Services personnel and/or staff. A joint approach under the responsibility of the respective commander is required to manage the event successfully.
- d. That medical and other military personnel should be trained in military acute trauma care and first aid prior to employment in military operations (Ref STANAG 2544 – AMedP-22).
- e. That providing appropriate and sufficient medical and military capabilities lies within national responsibility.

1.2 DEFINITIONS

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

- a. Major Incident: From a medical point of view, a Major Incident is an incident in which the casualties by their number, severity, type or by its location require extraordinary resources and a coordinated response.
- b. MASCAL situation: A MASCAL situation is one in which an excessive disparity exists between the casualty load and the medical capabilities and capacities locally available for its management. ¹

¹ MMI is declared 'bottom up' (for example from the ground) while a MASCAL is declared 'top down' by the Theatre Medical Commander.

The latter applies for any number of casualties produced in a relatively short period of time which overwhelms the available medical and logistic support capabilities.

- c. EMERGENCY MEDICAL CARE: Emergency Medical Care is defined as those critical actions required for the timely evaluation, triaging, resuscitation, stabilization, initial treatment and transportation of any patient with potential life, limb, eye sight, organ threatening illness or injury.

1.3 GENERAL

1. It is essential that the same principles with respect to the response to the incident apply in both cases with the exception that the categorization as T4 (details given in Para. 2.4 (5)) is implemented in MASCAL situations only. The use of Triage category T4 can only be authorised by the Theatre Medical Director. Hence, in a MASCAL situation the principles of treatment at the onset of the medical response may change from one based on the individual needs of each patient to the greatest good for the greatest number.

2. The standardization of principles concerning preparatory planning, personnel training, gear interoperability, categorization, treatment, and evacuation of patients will help considerably in ensuring inter-allied and mutual assistance.

3. In a Major Incident/MASCAL situation a coordinated response of all staffs and agencies (including civilian resources) involved is required, and management of a Major Incident/MASCAL situation is a Commander's responsibility. Any Major Incident/MASCAL situation should have the total focus of the commander, especially in a humanitarian and disaster response situation and/or medical stability operation.

4. If the medical/health service anticipates increased numbers of casualties are likely to exceed the planned medical capability deployed to support the incident, the Medical Incident Officer (MIO) or Senior Medical Officer (SMO) may declare a MASCAL situation. The Joint Operations Centre (JOC) is to inform all personnel that a MASCAL situation has been declared. As referred in AJP-4.10(B) the Patient Evacuation Coordination Centre (PECC) - if implemented - is collocated with or integrated in the Ops-Centre (Tactical Operations Centre (TOC), Joint Operations Centre (JOC) or Combined Joint Operations Centre (CJOC) and is likely to have the best overview of available medical capabilities and hospital capacity. Therefore the coordination of the medical evacuation is a responsibility of the PECC.

5. Force Protection Measures and other support operations, e.g. air support and Explosive Ordnance Disposal (EOD) and CBRN require a rapid, efficient and coordinated response to Major Incident/MASCAL situations.

6. The need for medical material in support of medical aid to a Major Incident/MASCAL situation is high in quantity but low in diversity.

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CHAPTER 2 DETAILS OF THE AGREEMENT
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2.1 PREPARATORY PLANNING

Plans for Major incidents/MASCAL situations should be available for all units. Planning should be updated and practiced on a regular basis. Preparation and planning should at least include:

- a. Assessment of hazards and risk: Hazards can be classified as military threats, environmental threats or a combination of both. Areas of Operations (AOO) are generally characterised by very different existing and potential hazards, including deposits of Chemical, Biological, Radiological and Nuclear (CBRN) agents. Further, specific regions within an area of operation can present themselves with higher risks for the same hazards/threats. When – as part of the situation assessment – high-risk regions have been identified, these findings must be taken into account in the overall planning including plans for the event of a Major Incident/MASCAL situation. This includes Release of CBRN agents other Than Attacks (ROTA).
- b. Identification of resources:
 - (1) Available resources: Agencies involved at the scene of a Major Incident/MASCAL situation across the spectrum of operational environments, e.g. IOs (International Organisations), NGOs (Non-governmental Organisations) and mainly GOs (Governmental Organisations) such as military, police, fire fighters and civilian rescue services.
 - (2) Equipment needs (personnel/medical): The scale and scope of a medical logistics system will be dependent on the situation. Thus it seems to be worthwhile concentrating on
 - personnel available in the event of a Major Incident/MASCAL situation,
 - familiarity of the deployed unit with its areas of responsibility and the measures to be taken when handling Major Incidents/MASCAL situations,
 - the formation of Mobile Medical Teams (MMT) and cooperation with a Quick Reaction Force (QRF)
 - the identification and appointment of appropriate key medical personnel, e.g. Medical Incident Officer (MIO), Medical Coordination Officer (MCO), Triage Officer, Patient Coordination Officer (PCO), and Ambulance Loading Officer (AmbLO),
 - pre-establish required medical equipment and gear, including medical supplies.
 - (3) Evacuation assets

Planned support from other units, including possible Medical evacuation (MEDEVAC) and non-medical Casualty Evacuation (CASEVAC) and possible landing sites in a contaminated and non-contaminated environment.

Air transport and ground vehicle transport equipment should be considered contaminated once they have entered the CBRN contamination zone. Appropriate decontamination procedures will be required.

- (4) **Re-supply**
Transportation used for evacuation should be involved in the re-supply throughout the ongoing Major Incident/MASCAL situation.

- c. **Responsibilities:** At the scene of a Major Incident/MASCAL situation there will be a large spectrum of operational environments with many agencies involved.

- d. **Command and Control (C2) structure:** Deployed organizational structure of the Medical Services and of other staffs and agencies (incl. civilian resources) involved.

- e. **Communications**
 - (1) Methods of communication
 - (2) Equipment needs including backup systems
 - (3) Principles of information exchange procedures, i.e.
 - Declaration of MASCAL situation must be clearly understandable.
 - 9-LINE request

- f. **Organizational aspects**
 - (1) Management
 - First on Scene
 - Allocation of medical and non-medical assets on the scene
 - Transport and evacuation
 - Medical treatment facilities, e.g. hospitals, clinics
 - (2) Levels of Command

- g. **Principles of medical management (including Triage)**

- h. **Practical application/exercise**
 - (1) Identification of and coordination with role players
 - (2) Harmonization with and integration in Standing Operating Procedures (SOP)

2.2 TRAINING

1. All military personnel must be trained in first-aid (Ref STANAG 2122). Military Acute Trauma Care and Tactical Combat Casualty Care (TCCC) should be made available to medical personnel and other military personnel who may take part in operations (Ref STANAG 2544). Medical personnel must be fully conversant on the principles of triage. All medical personnel must also be fully trained in their role within the Medical Unit's Major Incident/MASCAL situation plan.

2. All units should regularly carry out exercises and reviews of their Major Incident/MASCAL response plans and procedures. Exercises should be conducted soon after a unit starts its tour of duty and after any significant change in personnel. Before conducting large scale exercises it should be emphasized that personnel are fully conversant with the plans and procedures within those plans, e.g. triage, decontamination, security aspects etc.

2.3 PRINCIPLES OF MANAGEMENT

a. General

(1) Major Incidents/MASCAL situations, by their nature, are unpredictable. The principles of the functions displayed here represent an ideal management C2 structure. In the real scenario the functions must be assumed by the first personnel arriving at the scene. Full operational ability, depending on the size and the nature of the incident, will be established later.

(2) To manage a Major Incident/MASCAL situation, the following functions have to be in place:

- Command and Control (C2)
- Safety
- Communication
- Assessment
- Triage
- Treatment
- Transport / Evacuation
- Exploit
- Recover

b. Command and Control (C2)

Command is vertical within a single service or agency. Control is horizontal across all the services and agencies responding to the scene. The Incident Commander (IC) has the command at the scene. In incidents with military primacy the operations commander (OC) has the overall command. In other incidents, the military may be lending assistance to Host Nation services and coordination should be made through their command and control construct.

c. Medical Command and Control

The Medical Incident Officer (MIO) is responsible for coordination with the IC at the site. The MIO has the local on-site command and control of medical operations. Prior to his/her arrival on the scene, his/her tasks are generally assumed by the first physician to arrive at the scene. The MIO is responsible for coordination with the IC at the site including the installation of the medical support area, the layout of the triage point, the number, location and nature of areas of treatment, and the evacuation area. The MIO also leads the triage or delegates this important task to an experienced physician or medical department officer.

The Medical Coordination Officer (MCO) is an experienced medical department officer or an experienced rescue medic (senior non-commissioned officer (NCO)). He/She is responsible at the Tactical Command Post (TCP) for implementing the MIO's assessments and instructions. The MCO maintains continuous contact with the MIO.

d. Safety

Safety is defined as ensuring that the scene is safe by liaison of the IC with Force Protection/Police, EOD, Engineer, and Fire Support if available. The safety assessment must encompass all aspects of the scene incl. extraction of patients. The MIO liaises with the IC for medical purposes.

e. Communication

Good communication, both at the scene and from the scene to responsible patient evacuation coordination cells and command posts (always including PECC, TOC) and medical facilities, is crucial to achieve the optimal response. Poor communication is the most common failure identified when the response to Major Incidents/MASCAL situation is reviewed. It is essential that only appropriate, timely and precise information is passed, and dedicated communication links must be established early.

f. Assessment

Assessment is a continual cyclical process for all Commanders, who need to assess the on-going situation and determine what resources and actions are required. Assessment must include current and emerging hazards, numbers of casualties, where to obtain additional resources and the possibility of evacuation.

g. Triage

Details on triage are given in Para. 2.4 – “categorization” (Ref. STANAG 2122 Appendix 1 to Annex 1).

h. Treatment

Treatment is aimed at providing sufficient care to allow casualties to arrive to a Medical Treatment Facility (MTF) safely and in as stable a

condition as possible. It must therefore be aimed at standard treatment priorities.

i. Transport / Evacuation

Medical Evacuation is the medical contribution to the coordination and conduct of transport of patients to available MTF. Transport and evacuation means will be required for moving casualties and bringing personnel and equipment to the scene. In principle, all modes of transport (incl. CASEVAC) can be considered dependant on the tactical situation. A dedicated air transport to the MTF is essential in a MASCAL situation to evenly distribute the work load.

Evacuation of casualties is coordinated by the Patient Coordination Officer (PCO). The PCO is an experienced medical department officer or an experienced rescue medic (senior NCO) who acts as instructed by persons authorised by the MIO. He/She is responsible for establishing and maintaining contact between the casualty control process on site and the PECC. The latter decides on the target treatment facilities and the medical evacuation assets required for the casualties. Clear and timely information is decisive in this context. The PCO, who coordinates the evacuation process, must receive at regular intervals an up-to-date list of the number and category of the casualties to be evacuated.

The evacuation coordination area is under the leadership of the Ambulance Loading Officer (AmbLO). The AmbLO is an experienced medical officer or an experienced rescue medic (senior NCO).

j. Exploit

Exploit is the collection and retention of evidence including medical evidence to allow the chain of command to exploit the response to the incident. ²

k. Recover

Recover is the restoration of the response system to the preincident state plus the immediate after-action analysis to learn lessons from the incident.

2.4 CATEGORIZATION

1. In any incident involving multiple casualties a process of Triage with priorities for Treatment and/or Transport is needed. Triage is a dynamic process and will take place several times for each casualty. Many factors affect the decision for categorization, and a significant alteration in one of them may allow the patient's category to be altered. The overall situation must be kept under review at all times.

² Exploit includes retention of IPE to inform IPE development, detection and retention of evidence of CBRN agent use etc.

2. Triage should be directed by the best qualified medical personnel available, preferably a medical officer experienced in emergency medicine and triage. In general, the first medical officer at the scene will be in charge of triage until additional, more qualified personnel arrive. A colour scheme to identify the triage categories should be in use, to make it easy for the rescue personnel to identify the casualties (Ref Para. 2.4 (6)).

3. A casualty tag bearing all necessary information, including individual casualty identification number, personal data and findings, diagnoses, triage outcome, required medical treatment and mode of transportation, is applied to all patients prior to transport. Casualty tags may include a colour scheme to define the triage category.

4. Consequently, patients should be separated into 3 streams for further treatment: those at T1/2 for immediate / delayed treatment, those at T3 for minimal treatment and those at T4 for supportive care being separated into different assigned areas.

5. The following triage priorities are to be used for treatment in a Major Incident/MASCAL situation, but it has to be re-emphasized that the use of the Triage category T4 during a MASCAL situation can only be authorised by the Theatre Medical Director.

a. Immediate Treatment Group (T1)

T1 consists of those requiring emergency care and/or life-saving surgery. One of the principles triaging patients as T1 is that they may be converted into T2 with appropriate temporary intervention(s).

b. Delayed Treatment Group (T2)

T2 consists of those in need of surgery or other medical care, but whose general condition permits delay in surgical or other special medical treatment without unduly endangering life.

c. Minimal Treatment Group (T3)

T3 consists of those with relatively minor injuries who can effectively care for themselves or who can be helped by untrained personnel.

d. Expectant Treatment Group (T4).

This group comprises patient subgroups who have received serious and often multiple injuries. One subgroup comprise hopeless cases regardless of resources and available competence, the other group those patients whose treatment would be time-consuming and complicated, with little chance of survival and consuming resources better used for less serious patients. Until the Major Incident/MASCAL situation is under control, both subgroups will receive appropriate supportive treatment and palliative care.

6. In a multinational Major Incident/MASCAL situation the following colour coding should be in use; T1 Red, T2 Yellow, T3 Green and T4 White. Further

details on triage categories can be found in the Allied Joint Medical Support Doctrine (AJP 4.10(B); STANAG 2122 Appendix 1 to Annex (Flowchart) 1).

2.5 SPECIAL PROBLEMS OF CBRN OPERATIONS

a. General

MASCAL situations may occur in peace keeping operations or conventional warfare, but under CBRN conditions additional problems are superimposed, particularly contamination and/or irradiation of patients. The initial MMTs must be prepared to triage and decontaminate patients and, if necessary, apply life-saving first aid. The decontamination process being completed, teams in a "clean" area are to continue the dynamic process of triage and provide treatment prior to transport. Appropriate protective gear must be available. For further details refer to STANAG 2461 to 2463.

b. Radiation/Nuclear

It will not be possible at the time of triage to predict which patients with thermal or blast injuries will develop radiation sickness. It will not always be possible to determine the dosage of irradiation received by the patient. Clinical symptoms may suggest that the patient has received a significant dose, latency has to be considered. Treatment of burns, fractures, blast injuries, shock and radiation units should be performed. Treatment of life-threatening conditions has priority over decontamination. The principles of limited time, increasing distance and shielding from the radiation source apply.

c. Biological

The control of epidemics will be of paramount importance under biological conditions. Availability of prophylaxis and treatment, and the importance of good field hygiene are to be considered. Restriction of movement may apply to prevent spreading infectious diseases.

d. Chemical

There will be a need to consider the individual protection of medical personnel and of patients, and to provide collective protection facilities in which patients may be transported and treated. Decontamination will be necessary, time-consuming and imposing high demands on manpower. Disposal of contaminated clothing and supply of clean clothing and decontaminants will pose a logistic problem.

e. Treatment under CBRN conditions.

The recommendations of STANAG 2358 are employed to provide optimum care including airway involvement, eye involvement, and skin involvement.

2.6 PRINCIPLES OF TRANSPORTATION / MEDICAL EVACUATION

1. Of particular importance is the time, which will elapse before patients receive emergency treatment. This length of time will be critical in the context of categorizing patients as T1. After initial emergency medical or surgical treatment, most T1 cases will be re-categorized. To the rear of the first medical facility, Evacuation priority for T2 cases is, amongst others, depending on site, time, distance and available means of transportation.

2. T3 and T4 cases have lower priority for evacuation and should not block the evacuation chain. They can be transported by any appropriate means of transport to the most distant hospitals, saving medical transportation for T1 or T2 victims. In the interest of economy available spaces on ambulances or other means of transportation may be filled up with sitting patients of any category in order to relieve pressure on forward medical resources.

As for aero-medical evacuation, the agreements of STANAG 2087 and STANAG 3204 apply.

2.7 MEDICAL SUPPLIES

Stocks of material will be rapidly used up in MASCAL situations. Medical commanders must therefore organize careful control of critical items. Normal re-supply procedures may be too lengthy in such situations. It is therefore essential that nations establish and maintain the capability for providing essential medical material for use in an emergency situation involving Major Incident/MASCAL situations. It is advisory to plan and prepare the transport of medical material with means of evacuation returning to the site of the event to evacuate more patients.

2.8 GENERAL SUPPLIES

Nations should prepare contingency plans for the provision of general equipment, not of medical origin, which would be required by the medical services responsible for the care of casualties in a Major Incident/MASCAL situation, e.g. means of ground and air transport, stretchers, blankets, shelters/tents, etc.

ANNEX A : RELATED DOCUMENTS

MC 326/3 NATO Principles and Policies of Operational Medical Support

STANAG 2228 - Allied Joint Medical Support Doctrine – AJP-4 10 (B)

STANAG 2087 - Medical Employment of Air Transport in the Forward Area

STANAG 2122 - Medical Training in First Aid, Basic Hygiene and Emergency care

STANAG 2358 - First Aid and Hygiene Training in a CBRN or TIH Environment

STANAG 2461 - NATO Handbook On the Medical Aspects of NBC Defensive Operations (Nuclear) – AMedP-6 VOL I

STANAG 2462 - NATO Handbook On the Medical Aspects of NBC Defensive Operations (Biological) – AMedP-6 VOL II

STANAG 2463 - NATO Handbook on the Medical Aspects of NBC Defensive Operations (Chemical) – AMedP 6 VOL III

STANAG 2542 - Allied Joint Medical Planning Doctrine AJMedP-1

STANAG 2544 - Requirements for Military Acute Trauma Care Training – AMedP-22

STANAG 2546 - Allied Joint Doctrine For Medical Evacuation – AJMedP-2

STANAG 3204 - Aeromedical Evacuation – AAMedP-1.1

STANAG 7179 - Planning Guidelines For Fire and Emergency Services Response To Major Fire and Emergency Incidents

ACO DIR 83-1 - Medical Support to Operations

ACO DIR 80-25 - ACO Force Protection

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ANNEX B ABBREVIATIONS

A

AmbLO ambulance loading officer
AOO area of operations

C

C2 Command and Control
CASEVAC Casualty Evacuation
CBRN Chemical, Biological, Radiological and Nuclear
CJOC Combined Joint Operations Center

E

EOD Explosive Ordnance Disposal

G

GO Governmental Organisation

I

IC Incident Commander
IO International Organisation

J

JOC Joint Operations Centre

M

MASCAL Mass Casualty
MCO Medical Coordination Officer
MEDEVAC Medical Evacuation
MIO Medical Incident Officer
MMT Mobile Medical Team
MTF Medical Treatment Facility

N

NCO Non-Commissioned Officer
NGO Non-Governmental Organization

O

OC Operational Commander

P

PCO Patient Coordination Officer
PECC Patient Evacuation Coordination Center
PZ Pick-up Zone

Q

QRF Quick reaction force

R

ROTA Release of CBRN agents other Than Attacks

S

SMO Senior Medical Officer

SOP Standing Operating Procedures

T

TCCC Tactical Combat Casualty Care

TCP Tactical Command Post

TOC Tactical Operations Centre

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