



**STANDARD OPERATING PROCEDURES**

**SOP**

**MEDICAL SUPPORT**

**05**

**MEDICAL SUPPORT AND EVACUATION**

**05.01**

**HUMANITARIAN DEMINING**

**TO 523**

- **GENERAL REQUIREMENTS**
- **PLANNING AND PREPARATION**
- **BASICS OF MEDICAL SUPPORT**
- **EVACUATION OF WOUNDED PERSONS**
- **EVACUATION FROM THE PLACE OF THE INCIDENT**
- **TRANSPORT AND FIRST AID**
- **MEDICAL SUPPORT STAFF AND AMBULANCE EQUIPMENT**

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# CONTENT

## INTRODUCTION

<b>1</b>	<b>SUBJECT</b>	<b>3</b>
<b>2</b>	<b>NORMATIVE REFERENCES</b>	<b>3</b>
<b>3</b>	<b>TERMINOLOGY</b>	<b>3</b>
<b>4</b>	<b>GENERAL REQUIREMENTS</b>	<b>3</b>
4.1	Planning and Preparation	4
4.1.1	Planning in Case of an Incident	4
4.1.2	Planning of Occupational Safety	4
4.2	Education in First Aid Skills	
4.3	Basics of Medical Support	
4.3.1	Phases of Medical Support	
4.4	Procedures of Administering First Aid	
<b>5</b>	<b>EVACUATION OF WOUNDED PERSONS</b>	<b>8</b>
5.1	Evacuation Procedure	8
5.1.1	Communications	
5.1.2	Levels of Communication	9
5.1.3	Frequency and Urgent Frequency	
5.1.4	Organization of Communications System during Technical Survey or Demining Execution	
5.2	Evacuation from the Place of an Incident	
5.2.1	Transport and First Aid	
<b>6</b>	<b>MEDICAL SUPPORT STAFF AND AMBULANCE EQUIPMENT</b>	<b>12</b>
6.1	Medical Technician/Hospital Attendant Equipment	12
6.2	Physician/Ambulance Equipment	13
<b>7</b>	<b>SUPPLEMENT</b>	<b>15</b>

## **INTRODUCTION**

This standard introduces specifications and instruction for providing the system of medical help during Technical Survey operations conducted by CROMAC. It defines minimal conditions for urgent medical help (medical support and evacuation – MEDEVAC) including planning required prior to Technical Survey execution, required training of deminers and support staff as well as medical support staff training.

Based on the Article 29 of the Law on Humanitarian Demining (NG 153/05) authorised legal entities, tradesmen and CROMAC are obliged, during technical survey and demining works execution, to provide for attendance of medical doctor and support staff, ambulance and prescribed medical equipment in a way to be able to provide casualties with urgent medical help in the shortest period possible.

Authorized legal entities, tradesmen and CROMAC have to provide with continuous and direct radio tie among authorised work site staff, medical doctor and ambulance.

Technical Survey works within defined mine suspected area (MSA) cannot start without adequate medical support and evacuation plan understandable to everybody, adjusted to the concrete workplace and routinely trained.

## **1 SUBJECT**

Standard Operating Procedure (SOP) defines operating procedures and measures of medical support and evacuation (MEDEVAC) according to the Law on Humanitarian Demining, Rules and Regulations on Demining by adopted standards, and also tasks and organizational scheme of CROMAC internal constitution.

## **2 NORMATIVE REFERENCES**

SOP is based on International Humanitarian Mine Action Standards (IMAS 10.20, IMAS 10.30 and IMAS 10.40), laws and by-laws that regulate mine action area in the Republic of Croatia as well as Law on Occupational Safety.

## **3 TERMINOLOGY**

Terms and definitions in SOP are in accordance with the international standards of defining terms and actions in medical support and evacuation of casualties within the MSA and entire mine action according to the IMAS 04.10 and IMAS 10.40.

## **4 GENERAL REQUIREMENTS**

Technical Survey operations execution is an activity of certain risk for safety and health of all participants especially deminers. For that reason, it is necessary to foresee and create the conditions for complete medical care and support during planning of demining operation.

Medical support includes: test of psychophysical abilities of deminers and support staff for conducting scheduled works prior to the employment, regular periodical medical examinations, presence of the physician with an ambulance at the workplace, fast and efficient medical intervention in case of an incident, transport of wounded persons to the adequate medical institution, education of deminers on

administering first aid and also medical treatment and rehabilitation of injured persons.

It is impossible to start with Technical Survey activities if the medical support is insufficient or inaccessible. It has to ensure fast and efficient medical intervention in case of an incident and transport of injured persons to the adequate medical institution. For safety and psychological reasons it is important to provide the best possible safety and care for deminers in cases of an emergency.

#### **4.1 Planning and Preparation**

Planning and preparation include the activities of training regulated by the Law on Humanitarian Demining and Rules and Regulations on Demining as well as procedures and measures undertaken by CROMAC in order to establish and sustain the adequate system of medical help at the workplace and also assure the co-operation with local, regional medical institutions and clinical hospitals.

##### **4.1.1 Planning in Case of an Incident**

CROMAC, that is an authorized CROMAC Regional Office or the company authorized for humanitarian demining is obliged to prepare the Activity Plan in case of an incident during Technical Survey. The Plan precisely states:

- a) Training required and qualification for all employees at the workplace especially deminers and medical support staff responsible for victims evacuation and administering first aid;
- b) Equipment and materials required for Activity Plan implementation in case of an incident during demining, including: first aid and medical equipment, kit and medications; means of transport required for the victims to be transferred from the place of an incident to the medical institution qualified for administering first aid; means of communication with the purpose of calling for help and/or reporting details on type of injuries and their gravity;
- c) Location-position of adequate equipped hospital with adequate support staff.

Preparation for the case of an incident during Technical Survey includes:

- a) The procedure in case of an incident in order to reduce the consequences of the incident while performing Technical Survey, but also the risk from the multiple victims as a result of the incident during conducting Technical Survey;
- b) Previous training of support staff in gaining first aid and medical skills as well as means required to be able to act in case of an incident during Technical Survey;
- c) Preparation of basic documentation on deminers at the workplace (blood type, infectious diseases, known allergies etc.) and medical support staff as part of the system for transport of victims to the institution qualified to provide adequate medical support or surgically qualified hospitals;

- d) Periodical testing of first aid procedures and evacuations from the moment of the incident to the moment of transporting the victim to the institution qualified for providing the adequate treatment or surgeries.

#### **4.1.2 Planning of Occupational Safety**

Plan for Occupational Safety includes:

- a) Report on every injury at work ( light, heavy, group) while conducting the works, on the regular way from the permanent workplace to the apartment, from the apartment to the workplace and on business trip. Reports on injuries are made in accordance with the Law on Occupational Safety;
- b) Organization of regular, periodical and systematic examination.
- c) Informing the support staff of threats on their health including diseases transferred by insects or water, and also poisonous animals and insects living in the area of Technical Survey;
- d) Supply with the most recent vaccines against diseases such as tetanus, tick-borne meningoencephalitis, yellow fever and hepatitis in accordance with the instructions of local international authorized bodies for health care;
- e) Vaccination against tick-born meningoencephalitis is required.

#### **4.2 Education in First Aid Skills**

CROMAC as well as companies authorized for humanitarian demining are obliged to organize and conduct training of deminers and support staff in administering first aid. Once a year there is an additional course where knowledge and skills of administering first aid are repeated and updated. Education in administering first aid is organized and conducted in accordance with the Law on Occupational Safety.

#### **4.3 Essentials of Medical Support**

While Technical Survey planning and implementation, certain basic rules of medical support have to be met:

- a) All deminers have to be trained for administering first aid.
- b) Medical technician should be trained to administer additional first aid to injured person, to plan the evacuation from the place of an incident to the nearest health institution as well as help the physician in his work.
- c) Physician should be trained to administer additional first aid to the wounded persons, is responsible for planning and evacuation of wounded persons, setting the priorities as well as planning and implementation of training for deminers and Quality Assurance Officers at skills of administering first aid. Physician is in constant contact with the nearest medical institution in relation to the workplace. Physician plans and performs the activities of wider health-related interest such as vaccination, hygienic-epidemiological protection etc., also monitors psycho-physical state and behaviour of deminers and submits the proposals and requests of general medical care.

- d) There should be a physician with an ambulance at the workplace placed at such distance from deminers which enables the physician to approach the wounded person in 3-5 minutes and administer first aid.
- e) During Quality Control activities at the workplace or an object, medical support provided by the physician with required equipment and an ambulance near the workplace (to be able to administer first aid in 3-5 minutes from the moment of the incident).

#### **4.3.1 Phases of Medical Support**

While carrying out demining activities and/or Technical Survey it is required to establish four phases of medical support.

First and second phase are established by CROMAC Regional Office or the company authorized for humanitarian demining and third and fourth phase are in-patient treatment and rehabilitation.

The first phase of medical support is performed at the workplace in a way to draw the wounded person out from the mined area, efficiently and urgently administer the urgent medical help and transfer the person to the access road with the ambulance. It consists of the following procedures: temporary blocking of bleeding, establishment of blood flow through the veins, primary treatment of wounds, immobilisation and transport preparations. First phase of medical support is performed by the hospital attendant.

The second phase of medical support consists of: complex urgent medical help procedures, transport preparations and transport of injured person to the in-patient medical institution. It is administered on the access road near the workplace. The following procedures are carried out: triage, permanent blocking of bleeding, prevention of occurrence and development of shock, introduction of required therapy, fluid compensation, stabilisation of injured person general state, psychical support, immobilisation and transport to the adequate in-patient medical institution (medical centre, hospital, clinic, clinical hospital etc.). Second phase of medical support is performed by the physician with the medical technician.

CROMAC Regional Office or an authorized demining company is responsible for planning and implementation of first and second phase of medical support.

The third phase of medical support is planned and performed at the in-patient medical institution selected according to the workplace location and type of injuries. If an injury requires specific type of treatment or long-term treatment, injured person can be transported to the other medical institution.

CROMAC or demining company is obliged to follow the course of treatment and to provide the necessary support to the injured persons.

The fourth phase of medical support consists of injured person's rehabilitation and it is performed by the specialized medical institutions: hospitals, health resort, thermal resort and also combination of home care and regular therapeutical procedures.

#### **4.4 Procedures of Administering First Aid**

In case of an incident workplace leader manages the whole procedure until the arrival of the physician. Deminers are required to administer the first aid in the shortest

possible period to the injured person. Then, medical technician should approach the person and administer urgent medical help and prepare the person for transport or transport the person to the ambulance and the physicians near the workplace (up to 5 minutes of fast walking).

The ambulance is placed near the workplace, on the access road, parked in a direction towards the hospital. Ambulance driver and physician should not move away from the vehicle during deminers' works. The physician is in radio-contact with the workplace leader, hospital attendant/medical technician and the nearest medical institution.

There should be a physician on every workplace, an ambulance and a driver as well as required medical equipment.

## **5 EVACUATION OF WOUNDED PERSONS**

CROMAC, that is CROMAC Regional Offices or the company authorized for conducting humanitarian demining prepare the plan of evacuation of casualties during demining operations or Technical Survey activities by which duties and responsibilities of the following subjects are defined:

- e) Regional Offices, companies authorized for humanitarian demining and ambulance for urgent action at the workplace (for example, procedures of removing the victims from dangerous areas or procedures of drawing the victims out of demining machine cabin;
- f) Teams for administering first aid and medical support at the workplace;
- g) At transporting the victims to surgically equipped institution including:
  - Information on scheduled access roads and means of transport;
  - Data on safety conditions including the conditions while crossing the international borders or internal control spots;
  - Food, fuel and repairing equipment;
- h) During administering medical help to the victim during the transport between place of the incident to the surgically equipped institution; and
- i) During preparation and maintenance of equipment, kit and medications for acting in case of an incident during Technical Survey including:
  - Equipment, kit and medications for medical help at the workplace;
  - Vehicle for urgent intervention equipped for specialized medical help with the inventory and installations for assistance in treating the victim during the transport to the medical or surgically equipped institution; and
  - Preparation and maintenance of radios for communication at the workplace and on the way.

## **5.1 Evacuation Procedure**

Evacuation of wounded persons implies the evacuation from the place of an incident to the safe surface area for administering essential medical help for the purpose of reanimation, keeping alive and stabilisation of injuries as well as evacuation from the place of an incident to the nearest health institution where the injured person can be provided with more complex medical help and surgical interventions.

Procedure in case of an incident should be regularly practised once a week so that team members can sustain required level of knowledge and skills. All team members have to know complete procedure very well and the way of evacuation for every area where demining or Technical Survey works are executed.

When the evacuation procedure is in progress, permanent communication with the Head of Regional Office or with the Office of demining company that conducts the works is established and they inform the nearest regional hospital on the incident and undertake other actions according to the information from the terrain.

Upon the incident, works are being stopped for at least 24 hours, help is administered to the staff that suffered the shock, the workplace and place of incident are closed, witnesses of an incident are registered and report on the incident is addressed to CROMAC or nearest police administration.

### **5.1.1 Communications**

Effective and efficient communication network is necessary for the safety of all operations of humanitarian demining and phases of their implementation. Operations of demining and Technical Survey of MSA should not be started without adequate and effective communications systems between the staff at the workplace, demining company administration and Croatian Mine Action Centre as well as other factors important for implementation of demining.

The goal of communications system is establishment of standards for communicational network of all participants in preparation and implementation of humanitarian demining operations.

CROMAC Regional Office or company that carries out Technical Survey or demining should have communications network established in the Head Office (existing telecommunications network in permanent buildings), at the workplace as well as during the patrol of staff groups and transport of explosive ordnance – by mobile communication devices (mobile phone, radio station).

CROMAC Regional Office or demining company is obliged to establish the communications system at the location where demining is being executed with the Police Administration (police station) and nearest health institution able to provide urgent medical intervention.

### **5.1.2 Levels of Communication**

The following levels of communications are established in preparation and implementation of Technical Survey or demining operation:

- civil telephone connections in permanent buildings of all participants of Technical Survey and demining operation
- mobile phone – mobile phone 091 and 098

- radio stations – mobile and immobile (on the vehicles)
- manual radio stations – UK – MOTOROLA (selective and non-selective),
- PAGER devices – for telephone messages transmission

### **5.1.3 Frequency and Urgent Frequency**

By the award of Ministry of Interior of the Republic of Croatia the frequent channel is determined exclusively for the needs of Croatian Mine Action Centre. Internal channel no. \_\_\_\_\_ is set for the whole area of the Republic of Croatia on which the communication through the manual work stations by SIMPLEX connection is realized by all participants of demining operation implementation.

CROMAC Regional Offices in Osijek, Karlovac and Zadar will together with Police Administrations from the areas of their own zones of responsibility enable the use of their radio frequency for the urgent needs (in case of an incident, staff getting killed etc.)

### **5.1.4 Organization of Communications System in Technical Survey or Demining Implementation**

#### **1 Croatian Mine Action Centre**

##### **a) Telephone at the office and mobile phone are in possession of:**

- CROMAC Director
- Deputy Director
- Assistants to the Director
- Heads of Departments
- Heads of Regional Offices
- Team Leaders
- Quality Control and Quality Assurance Officers

##### **b) SIMPLEX radio stations are in possession of:**

- Quality Control Officers
- Team Leaders
- Deminers

#### **2 Demining Companies**

##### **a) Telephone at the office and mobile phone (091 or 098) are in possession of:**

- Director
- Leader of Demining Operational Body
- Head of Regional Office (if they have one)
- Workplace Leader

##### **b) SIMPLEX radio stations are in possession of:**

- Teams Leaders of Deminers,
- Physician (hospital attendant),
- Leader of Reference Storage
- Smaller group of deminers (if it is spatially repositioned)

### **3 Police Administrations (or stations) have the telephones in their base**

**4 Health institution** – it is necessary to establish communication with the nearest health institution that can provide adequate medical help if needed.

## **5.2 Evacuation from the Place of the Incident**

In case of an incident while executing Technical Survey works or demining CASEVAC procedure must be efficient but also well-considered.

Evacuation is performed by team leaders under the control (supervision) of workplace leader. If the person is conscious it should be warned not to move until the first aid is administered by the nearest deminers. Injured person should be warned not to exert itself on the ground. Ground inspection under the injured person should be executed by the prodder and identify whether there are any unexploded mines under the injured person's body. Body position, type of soil and place of the fall (cleared or non-cleared) are important. If the injured deminer is within the non-cleared area, workplace leader organizes mine clearance and drawing the injured deminer out at the safe surface area.

Injured person can be lifted by the ropes with wooden panels, by hands or stretchers from the ambulance at an angle of 45°. If the wounded person is immobile and unconscious we do not approach to it immediately but we try to call the person out. If the person does not move after a few calls, the team sets for the person but only one man establishes the contact with the injured person (injured person's team leader) until it is identified whether it is safe for the others to approach (two more persons maximum). It is ideal if only one person is able to perform evacuation on its own, but it is usually done in pairs. Evacuation is performed on the nearest intervention path (central or peripheral path), by the most experienced deminer in the team during normal activities.

### **5.2.1 Transport and First Aid**

At the safe area, medical support staff with the assistance of deminers, administers the essential medical help, stabilizes the injuries and organizes the transfer of an injured person on the stretchers to the ambulance or helicopter. Areas used as improvised runways for helicopters should be submitted to the helicopter pilots as well as ways of marking the landing zone. All routes of medical evacuation are planned in details and in advance. While administering the first aid and transport of injured deminer, beside what is being stated, the following should be fulfilled as well:

- a) Trained hospital attendant or medical technician with all required equipment should be positioned at such place from which for 5 minutes the most he is able to arrive to the area where demining, Technical Survey or marking is executed. They should, in five minutes, administer the first aid with the purpose of reanimation, keeping alive and stabilization of injuries. If they judge more complex medical help as necessary, they set for the nearest medical institution (Health centre – Emergency) in order to administer more complex medical help, prior to medical evacuation to the hospital.
- b) Medical support staff should have direct and constant access to the ambulance which is not allowed to be used for any other purposes during demining or Technical Survey activities.

- c) If necessary, an expert help is administered in special hospital in 60 minutes from the time of administering the first aid. If the hospital is more than 60 minutes away medical helicopter should be available.
- d) After the incident it is required to undertake the specific steps for the psychical rehabilitation of the entire working team and ensure longer rest, not shorter than 24 hours to all team members present at the time of an incident.

## **6 MEDICAL STAFF AND AMBULANCE EQUIPMENT**

Medical staff and ambulance have to be equipped with prescribed medical equipment in a way to be possible to provide the casualty with urgent medical help in the shortest period possible.

Based on the Article 70 of the Law on Humanitarian Demining (NG 153/05), the Minister of Health and Social Welfare passes the regulation on equipability of medical team and ambulance.

### 6.1 Equipment of medical technician/hospital attendant

#### 6.1.1 Reusable equipment

#### 6.1.2 Bandage and other spending material

#### 6.1.3 Doctor equipment/ ambulance equipment

#### 6.1.4 Reusable equipment

#### 6.1.5 Bandage and other spending material

#### 6.1.6 Medications

## Supplement A

### Normative References

- 1 Law on Humanitarian Demining, NG 153/05
- 2 Amendments of the Law on Humanitarian Demining, NG 36/07
- 3 Amendments to the Rules and Regulations on Methods of Conducting Demining Operations, NG 53/07
- 4 IMAS 08.10 (General Mine Action Assessment)
- 5 IMAS 04.10 (Table of Mine Action Terms and Abbreviations)
- 6 IMAS 10.10
- 7 IMAS 10.20
- 8 IMAS 10.30
- 9 IMAS 10.40
- 10 IMAS 10.50