

# **DEMINING NATIONAL STANDARD 10.40**

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## **Medical support to demining operations - Mozambique**

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## Introduction

The responsibilities and obligations of the national mine action authority, employers and employees for providing and maintaining a safe workplace are outlined in NS 10.10. Safety and Occupational Health are achieved through the development of safe work practices and operating procedures, effective supervision, and control, appropriate education and training, equipment of inherently safe design, the provision of effective personal protective equipment and clothing and correct prophylactics against disease.

Good management and supervision will reduce the likelihood of harm, but there will always be the potential for demining accidents to occur. Demining agencies and employees must therefore be properly trained and equipped to respond to demining accidents. Demining is often conducted in an environment degraded by conflict and other humanitarian challenges, perhaps made worse through natural disasters. Under these circumstances diseases such as malaria, tuberculosis, triptosomiasis and cholera, previously kept in check by national medical control measures, can again become widespread.

Developing a capacity to provide an appropriate response to a demining accident requires good planning, well trained staff and the availability of medical services able to provide effective emergency treatment. Notwithstanding the legal and moral obligations placed on managers to provide the best medical support possible, in particular at the demining worksite, planning must acknowledge the reality of field operations. In mine-affected countries suffering from post-conflict trauma, the medical facilities will be limited, and overstretched. In these circumstances, mine action authorities and demining agencies should not place unrealistic demands on the host nation's medical infrastructure, in particular during the initial stages of a demining programme, but should plan to be as medically self-sufficient as possible in order to deliver a patient with quality trauma care to a medical surgical facility.

The aim of this standard is to provide specifications and guidance for the provision of appropriate medical support to demining operations in the field. The document is in three parts: Clauses 1 to 3 define the scope, references and terms used in the standard; Clauses 4 and 5 define the requirements, specifications and responsibilities; and the annexes provide additional detailed information and guidance on how to apply the standard.

## **Safety and occupational health Medical support to demining operations**

### **1. Scope**

This National Standard (NS) provides specifications and guidelines for the development of medical support to demining operations. It specifies the minimum requirements for medical emergency preparedness, including the planning required before staff deploy on demining operations, and the training of demining and medical support staff. Medical support to demining activities in Mozambique is very important due to the remote areas where demining is taking place as well as the lengthy casualty evacuation lines. It is important that medical care be provided to casualties as soon as possible after an accident to stabilize the patient and prepare him/her for the road/air transport to the next medical facility.

### **2. References**

A list of normative references is given in Annex A. Normative references are important documents to which reference is made in this standard and which form part of the provisions of this standard.

### **3. Terms and definitions**

A list of terms and definitions used in this standard is given in Annex B. The terms and definitions in this NS are in compliance with IMAS 04.10 (Glossary of mine action terms and abbreviations) and all terms that have been developed locally have been captured in NS 04.10 (Glossary of mine action terms and abbreviations in Mozambique).

The term 'national mine action authority or authorities' refers to the government departments, agencies or institutions in each mine-affected country charged with the regulation, management and co-ordination of mine action.

In addition to the information contained in IMAS 09.10, it should be noted that:

Although the term 'national mine action authority or authorities' which usually refers to the government departments, agencies or institutions in each mine-affected country charged with the regulation, management and co-ordination of mine action is used, in Mozambique IND has been designated to fulfill these responsibilities with regard to the supervision and implementation of demining operations.

The term 'demining agency' refers to any agency (government, military, NGO or commercial entity) responsible for implementing demining projects or tasks. Demining agencies include headquarters and support elements, and comprise one or more sub-units. Demining agencies in the NS refer to those agencies that are contracted and accredited by IND to carry out demining activities in Mozambique.

The term 'demining accident' refers to an accident at a demining workplace involving a mine or UXO hazard.

The term 'demining accident response plan' refers to a documented plan developed for each demining workplace which details the procedures to be applied to move victims from a demining accident site to an appropriate treatment or surgical care facility

## **4. General requirements**

### **4.1. Planning and preparation**

Demining agencies however have to maintain appropriate medical cover at the demining workplace, and make appropriate arrangements with local, national and (if necessary) international medical treatment facilities including surgical facilities. The medical support to demining operations shall in all be guaranteed

**4.1.1 Accident planning** A demining accident response plan shall be developed and maintained demining agencies for each demining workplace. The plan shall identify:

- a) the training and qualification needs of all employees at the demining workplace, in particular demining workers and medical support staff with responsibilities for casualty evacuation and initial treatment;
- b) the equipment and materials required to implement the demining accident response plan, including: first aid and medical equipment, supplies and drugs; transportation required to move victims from the accident site to medical facilities offering treatment; and communications to call forward assistance and/or to provide details of the nature and extent of injuries; and
- c) the location of a suitably equipped and staffed hospital. Mine injuries are usually severe, and specialist surgery is often required.

### **4.1.2 Preparation for a demining accident shall include:**

- a) the development and maintenance of work practices designed to reduce both the risk of demining accidents and the risk of multiple victims resulting from a demining accident;
- b) the pre-positioning of staff with the first aid and medical skills and resources required to respond to a demining accident;
- c) the development and maintenance of:
  - demining worksite management documentation that includes details of the blood group types and known allergies for each demining worker;
  - a capacity to transport victims to an appropriate treatment facility or surgical hospital or insurance to cover the cost of transport to a suitably equipped and staffed hospital;
  - insurance to cover the cost of surgical care and treatment, including prosthetics, for victims of demining accidents;
  - insurance to provide an appropriate disability pension to demining workers who become victims of demining accidents; and
- d) the periodic testing of emergency procedures and evacuation procedures from the time of the accident through to the delivery of a victim to an appropriate treatment or surgical care facility.

**4.1.3 Occupational health planning.** An occupational health plan shall be developed, that shall include:

- a) the briefing of all staff on the health hazards, including insect and water-borne diseases, and poisonous animals or insects native to the demining area;
- b) the provision, where appropriate, of prophylactics against disease;
- c) arrangements for periodic health checks. These health checks shall include checks at the field camps, on the demining worksite on a regular basis. These inspections will include living quarters, kitchens and food storage areas, garbage/sewage disposal areas and also water tanks; and
- d) the provision of up to date injections against diseases such as tetanus, yellow fever and hepatitis, as advised by local or international health authorities.

4.1.4 Assistance to local population. Demining agencies may provide medical assistance to the local population, however this is an internal matter for the demining agency and should be done with the support of the local Ministry of Health. This assistance can add significantly to the acceptability of the demining agency in the local community, and the support and co-operation they will receive from the local authorities.

## **4.2. Evacuation**

A Demining evacuation plan shall be developed for each demining site. The demining accident victim evacuation plan shall include provisions that outline responsibilities and obligations for:

- a) the management of the on-site emergency response procedures, which may include, for example, procedures to remove victims from hazardous areas or procedures to extract victims from mechanical demining equipment;
- b) the on-site first aid and medical care of victims;
- c) the movement of victims to a surgical facility with the capacity to provide appropriate surgical care, including:
  - details of planned routes and means of transport, including alternate routes and alternative means of transport;
  - details of security requirements including requirements for crossing international borders or through internal security posts;
  - fuel, food and repair facilities on route;
- d) the medical care of the victim during movement from the accident site through to the surgical facility; and
- e) the establishment and maintenance of demining accident response equipment, materials and drugs including:
  - on-site medical care equipment, materials and drugs;
  - an emergency response vehicle, including specialist medical care equipment and fittings or fixtures to assist in the management of the victim during movement to the medical treatment or surgical facility; and
  - preparation and maintenance of radios for on-site and en-route communications.

## **4.3. Demining accident response capability**

### **4.3.1. General**

Demining agencies shall ensure that each demining workplace include:

- a) demining teams with resources to:
  - provide immediate first aid to a victim of a demining accident;
  - remove victim(s) from the hazardous area;
  - transport the victim(s) to an appropriate medical treatment or surgical facility or other collection point for further movement of the victim to the appropriate medical facility. In Mozambique demining agencies shall assign a vehicle on each site as the vehicle to be used to transport victims. This vehicle should be referred to as an emergency or safety vehicle. Once the teams arrive on site these vehicles have to be prepared for this function. This shall include removing all equipment and if necessary fold down or remove the seats to accommodate one patient lying down on a stretcher. Due to the local road conditions, and traffic demining agencies may also consider escorting this vehicle with another vehicle. Each emergency vehicle shall ;
  - provide en-route medical care for the victim(s); and

- communicate with the medical facilities, other emergency services or other coordinating agencies responsible for assisting the demining agency in providing an appropriate response to a demining accident; and
- b) staff trained and equipped to:
- clean and dress wounds correctly,
  - stabilize fractures,
  - give analgesia, and
  - give antibiotics and anti-tetanus prophylaxis if the victim is not otherwise likely to receive them within six hours of the demining accident.

#### **4.3.2. Small demining teams**

It is acknowledged that it may not be practical to provide dedicated first aid or medical staff to small demining teams including, for example, survey teams or EOD teams which may be required to operate independently and in remote locations over extended periods. In such cases, demining agencies shall ensure that the small demining team has:

- a) employees with first aid training and resources required to respond to a demining accident, move victims to an intermediate medical treatment facility or a surgical care facility; and
- b) sufficient staff to manage and implement an appropriate emergency response procedure, including procedures which minimize the risk of multiple victims from a demining incident.

Additionally, when a team has only two people, both should be first aid trained and capable of carrying out appropriate emergency response procedures.

### **4.4. Training**

#### **4.4.1. General**

All people working at or visiting demining workplaces shall receive appropriate training on the precautions to reduce the risk of a demining accident, and the action to be taken in the event of a demining accident.

#### **4.4.2. Demining workers**

In addition to the requirement specified in sub-clause 4.4.1, all demining workers should know:

- a) their responsibilities and limitations for providing first aid care;
- b) how to place an unconscious person in the recovery position;
- c) how to stop bleeding by application of a pressure dressing to different parts of the body, elevation of a wounded part and, as a last resort, application of a tourniquet with minimal risk;
- d) the importance of dialogue with and realistic assurance of victims of demining accidents;
- e) the importance of protecting victims from cold, rain, wind and excessive heat; and
- f) methods of casualty lift, carry and placement on a stretcher/litter.

#### **4.4.3. Supervisors and demining team leaders**

In addition to the requirements specified in sub-clause 4.4.2, demining supervisors and team leaders shall know:

- a) how to manage the extraction of a victim from a hazardous area;
- b) how to manage a demining accident which results in multiple victims;
- c) how to delegate first aid tasks to others with little or no training;

- d) how to plan and co-ordinate the evacuation of victims from the demining workplace to the surgical care facility; and
- e) the system for contacting medical treatment and surgical facilities, and agencies or authorities required to assist in facilitating the movement of victims to any intermediate care facilities and then to the appropriate surgical care facility.

#### **4.4.4. Medical support staff**

In addition to the requirements specified in sub-clause 4.4.3, medical support staff shall be able to:

- a) assess the casualty's general condition, and assess the treatment needed;
- b) assess whether the casualty should be moved;
- c) call forward medical assistance to treat the casualty on site or at an intermediate point before movement to advanced medical facilities;
- d) treat a casualty appropriately and safely at the demining workplace and en-route to advanced medical facilities; and
- e) correctly administer immediate antibiotics, allergenic and intravenous fluids.

## **5. Responsibilities**

### **5.1. IND**

IND shall:

- a) establish and maintain documented standards and procedures for medical support to demining operations;
- b) monitor demining agencies' development and maintenance of demining accident response and evacuation plans;
- c) assist in the co-ordination of appropriate responses to demining accidents, including supporting demining agencies in overcoming any local governmental constraints in the execution of a response plan;
- d) evaluate the effectiveness of emergency response plans and provide advice in implementing appropriate corrective action;
- e) establish and maintain standards and procedures for the investigation of demining accidents; and
- f) establish and maintain standards for insurance cover for medical treatment for demining workers, and standards for invalid pensions for demining workers.

### **5.2. Demining employers**

Demining employers shall:

- g) develop and maintain SOP which aim to reduce the risk of demining incidents occurring;
- h) develop and maintain SOP which aim to reduce the risk of harm resulting from demining accidents;
- i) develop and maintain demining accident response plans for each demining workplace;
- j) provide the training and resources needed for the implementation of the demining accident response plan;
- k) provide an appropriate health plan for the demining workforce; and
- l) ensure that casevac drills are practiced regularly.

- m) issue, maintain and update their own regulations, codes of practice, SOP and other suitable provisions on medical support;
- n) cooperate with other employers in the same country to ensure consistency of standards for accident prevention, emergency procedures and occupational health; and
- o) assist IND with assistance in framing national S&OH regulations and codes of practice for all aspects of medical support.

### **5.3. Demining workers**

Demining workers, including medical support staff shall:

- a) apply SOP which aim to reduce the risk of a demining incident;
- b) apply SOP which aim to reduce the risk of harm resulting from a demining accident;
- c) develop and maintain skills needed to respond to demining accident emergencies;
- d) identify and report opportunities to improve work practices to reduce the risk of a demining incident occurring and improve the agency's demining accident response plan; and
- e) carry out all the actions recommended by the medical authorities for the maintenance of occupational health.

## **Annex A (Normative) References**

The following documents when referred to in the text of this standard, form part of the provisions of this standard.

- a) 'Care in the field for victims of war weapons, Management and health guidelines for health professionals'; ICRC; and
- b) IMAS 10.10 Safety and occupational health – General requirements.
- c) IMAS 10.40 Medical support to demining
- d) NS 10.10 Safety and occupational health in Mozambique - General requirements

The latest version/edition of these references should be used. IND, Maputo holds copies of all IMAS references used in this NS. A register of the latest version/edition of the NS and references is maintained by IND, Maputo, and can be found at the Operations Department. Demining agencies should obtain copies before commencing demining activities in Mozambique.

## **Annex B (Informative) Terms and definitions**

**1.1. accident**

an undesired event which results in harm

Note 1: modified from definition in OHSAS 18001:1999,

**1.2. demining accident**

an accident at a demining workplace involving a mine or UXO hazard

**1.3. demining incident**

an incident at a demining workplace involving a mine or UXO hazard

**1.4. demining accident response plan**

a documented plan developed for each demining workplace, which details the procedures to be applied to move victims from a demining accident site to an appropriate treatment or surgical care facility

**1.5. demining worker**

all employees, including public servants, qualified and employed to undertake demining activities or work at a demining workplace.

**1.6. demining workplace**

workplace where demining activities are undertaken

Note 1: Includes sites where survey, clearance and EOD activities are undertaken including centralized disposal sites used for the destruction of mines and UXO identified and removed during clearance operations.

**1.7. emergency response procedure**

procedures or drills designed to allow a demining team to provide an immediate response to extract victims from hazards areas, to administer first aid and prepare victims to move to an appropriate treatment facility or surgical care facility.

**1.8. incident**

an event that gives rise to an accident or has the potential to lead to an accident [ILO C155].

**1.9. medical support staff**

employees of demining agencies designated, trained and equipped to provide first aid and further medical treatment of demining workers injured as a result of a demining accident.

**1.10. mine accident**

an accident away from the demining workplace involving a mine or UXO hazard.

**1.11. mine incident**

an incident away from the demining workplace involving a mine or UXO hazard.

**1.12. workplace**

all places where workers need to be or to go to by reason of their work and which are under the direct or indirect control of the employer.