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# **Safety Procedures for Healthcare Professionals in Conflict Zones Land Mines and ERW awareness**

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for Disaster Medicine*



# Safety Procedures for Healthcare Professionals in Conflict Zones

## Land Mines and ERW Awareness

# **Safety in Emergencies**

## **Your security, the priority!**

by Mohammed Alkuhali  
and Roberto Mugavero

## **Introduction**

The safety and well-being of healthcare professionals in conflict zones is a critical concern that demands meticulous attention and preparation. This booklet, produced by the European Centre for Disaster Medicine (CEMEC), provides a comprehensive guide aimed at equipping medical personnel with the essential knowledge and tools necessary to navigate the unique and perilous challenges posed by such environments. Through detailed procedures, risk mitigation strategies, and emergency response guidelines, this resource ensures that healthcare workers are not only prepared to deliver vital medical services but also to protect themselves and their teams in the most hazardous conditions. Whether addressing the dangers of landmines, unexploded ordnance, or the complexities of urban conflict zones, this guide serves as an indispensable tool for those committed to saving lives in the most dangerous places on earth.

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## UNDERSTANDING WEAPONS CONTAMINATION

Weapons contamination is a significant issue in post-conflict areas, posing a persistent threat to civilians and humanitarian efforts long after hostilities have ceased. This contamination primarily includes a range of explosive remnants of war (ERW), which can vary from landmines to unexploded ordnance, abandoned ordnance, and improvised explosive devices (IEDs). Understanding these threats is crucial for ensuring safety and implementing effective risk mitigation strategies.

### **Types of Explosive Remnants of War (ERW)**

#### *Unexploded Ordnance (UXO):*

- **Fired but Unexploded:** These are munitions that were fired or dropped but failed to detonate as intended. They remain live and dangerous, posing a significant threat to *anyone who encounters them*.

#### *Abandoned Ordnance:*

- **Improperly Stored:** These are weapons or munitions that have been left behind, often in unsafe conditions, posing a risk of accidental detonation or misuse.

#### *Cluster Munitions:*

- **Multiple Explosives:** Cluster munitions release many smaller bombs over a wide area. Often, not all of these submunitions explode upon impact, leaving dangerous remnants that can harm civilians long after the conflict ends.

### **Mines**

#### *Landmines:*

- Anti-Personnel Landmines: These are designed to target individuals, often resulting in severe injuries or fatalities. They are usually hidden and triggered by pressure or tripwires.

They can be:

a) **Improvised - Improvised Explosive Devices (IEDs):**

IEDs are makeshift bombs constructed and deployed in ways not intended by standard military devices. They can be activated in various ways, such as through pressure, wires, or remote control, and are often used in asymmetric warfare.

The activation of these weapons varies depending on their design:

- **Pressure Activation:** Many anti-personnel and anti-vehicle landmines are triggered when sufficient weight is applied.
- **Remote Detonation:** IEDs, in particular, can be activated remotely, often by wire or electronic signals, posing a challenge for detection and neutralization.
- **Proximity Detonation:** Some devices are designed to explode when they sense the proximity of a target, such as a vehicle or person.

b) **Industrial - Industrial landmines** are mass-produced by formal military or defense industries and are intended for conventional warfare. These mines are designed to meet

specific military standards and are typically more uniform in design and function compared to improvised devices. Industrial mines include both anti-personnel and anti-vehicle types and are usually deployed in large numbers to create minefields. They can be activated by pressure, tripwires, or command detonation, depending on their intended use. The reliability and effectiveness of industrial landmines make them a persistent threat in post-conflict areas where they remain buried and active long after hostilities have ended.

- Anti-Vehicle Landmines: Larger and more powerful, these mines are intended to disable or destroy vehicles. They are typically triggered by the weight of the vehicle.

- Anti-Tank Landmines: Similar to anti-vehicle mines but designed to target and destroy tanks and other armored vehicles.

## **Other Types of Weapons**

### *Small Arms:*

These weapons are designed for individual use, including pistols, rifles, and handguns. While not explosive, they still pose significant risks, especially when found abandoned or in unsecured areas.

### *Light Weapons:*

Intended for use by two or three persons, these include machine guns, grenade launchers, and other portable firearms that, while not as easily triggered as mines or IEDs, contribute to the overall dangers in contaminated areas.

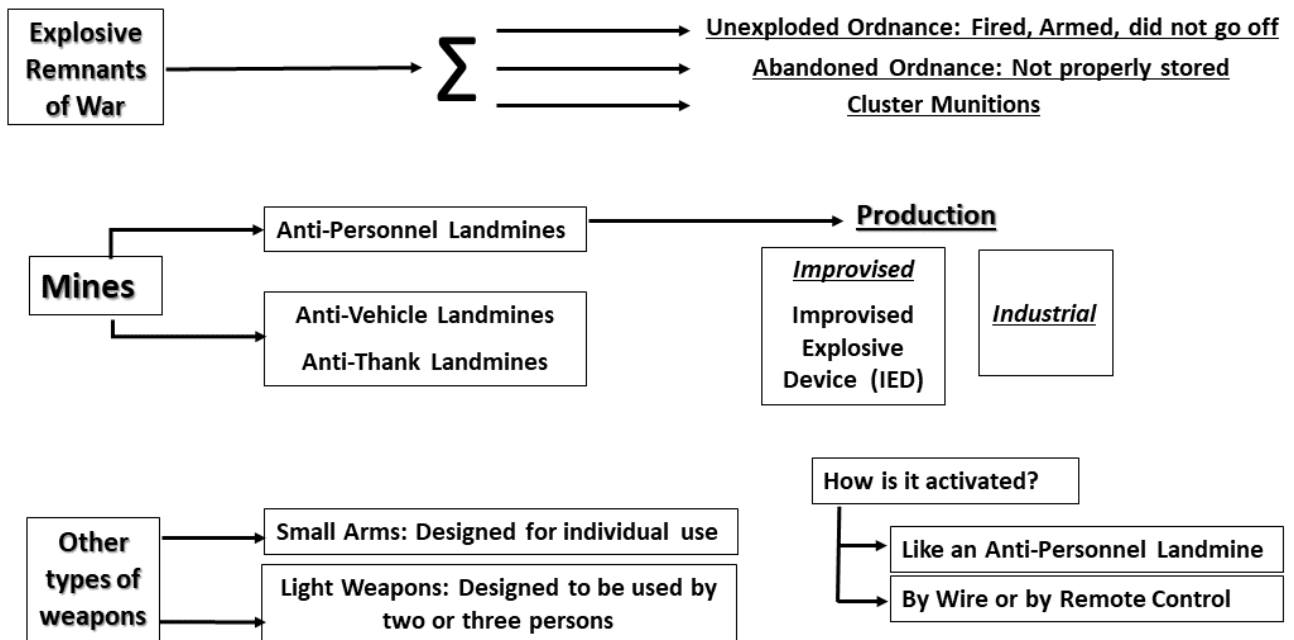
## **The Broader Impact**

Weapons contamination not only causes immediate physical harm but also hampers reconstruction and humanitarian efforts by rendering large areas unsafe for habitation or development. Clearing these hazards is a complex and dangerous process, requiring specialized skills and equipment. Awareness and education about these dangers are critical for anyone living in or working in post-conflict areas.

## **Safety Measures and Risk Mitigation**

Understanding the types of weapons contamination and the risks they pose is the first step in safeguarding communities and individuals. It is crucial to follow safety protocols, report any suspicious objects, and support demining activities to reduce the threat of weapons contamination in affected regions.

## Beyond Anti-Personnel Landmines...What is Weapon Contamination ?





## GENERAL RULES

*Before we start, remember:*

- If you didn't drop it, don't pick it up.
- Do not take anything for granted; do not assume everything is obvious or that you know everything. Gather all the information necessary to protect your life and the lives of others.
- Be open to receiving comments and suggestions from your teammates to make the most informed decisions.
- Listen to others and speak clearly to ensure your instructions are understood.
- Be patient; quick actions do not guarantee effective results.
- Dangers are not always in front of you; they might be beside you, behind you, overhead, or just centimeters away from the safe area.
- Take your time to observe before you act.
- Identify the person responsible for the mission, the one who makes decisions and directs the team in case an evacuation is needed.
- Make a plan for potential scenarios and discuss it with your team.

### **Walking or Driving a Vehicle in a Contaminated Area**

- Before your mission, discuss worst-case scenarios and what actions to take.
- **STOP! STAY STILL!** All movement should be halted immediately.
- Do not continue walking, and if you are in a vehicle, do not turn the wheel in any direction, as you could be just centimeters away from danger.
- The person responsible for the mission (Field Trip Leader) is the one who takes control of the group and the situation.
- First and foremost, avoid getting off the vehicle.
- Control the situation from inside the vehicle.
- Inform, warn, and alert the team about the reasons for stopping, and ask them to observe the area from their vehicle.
- Verify the condition of all team members.
- Request assistance and wait for instructions from the operational base.
- If you do not have radio, cell phone, or satellite coverage inside the vehicle, climb to the roof through the window.

### **Potentially Dangerous Areas For Landmines & Uxo Contamination**

- Vicinity of military positions, whether occupied or abandoned.
- Weapons bearers' camps, whether occupied or abandoned.
- Combat zones.
- Strategic corridors or roads.
- Curbs, sidewalks, or paths that are not frequently used.
- Water sources or wells.
- Abandoned buildings or structures.
- Bridges or crossroads.

- Paths, shortcuts, or bridleways.
- Property boundaries, fences, riverbanks, ditches, curbs, or sidewalks.
- Areas around power lines and pylons, pipelines, or waterways.
- Highlands in rural areas with cell phone coverage.

### **Signs and Indicators of Landmines & UXO Contamination**

- Previous contamination events involving ERW in the area.
- Areas of displacement or confinement due to fighting.
- Objects “out of place.”
- Knowledge or information about previous armed clashes in the area.
- Shrapnel, ordnance remnants, explosive devices, or hand grenades.
- Extended or discarded wires or cables.
- Craters or explosion sites.
- Burnt vegetation or scorched land.
- Changes in vegetation, small holes, or unusual soil mounds.
- Dead animals or their bones.
- Dirty plastic caught in tree branches.
- Painted tree trunks.

In case you receive instructions to EVACUATE the vehicle in a dangerous or suspicious area, follow these steps:

- In an emergency, the mission leader confirms the evacuation instruction. If time permits, confirm the evacuation with your operational base.
- Inform the team why it is necessary to leave the vehicle.
- Ensure that all team members understand the situation and remind them to take only essential personal belongings, such as water, food, medication, communication devices, first aid kits, etc.
- Avoid, at all costs, returning to the vehicle.
- Avoid exiting the vehicle through the side doors.
- Evacuation must be conducted **ONLY** through the back door or windows towards the roof of the vehicle.
- Before evacuating through the back door or windows, the mission leader should define a meeting point in a safe area for all team members.
- Remind the team not to place any objects on the ground.
- Set the order of evacuation from the vehicle and remind team members to maintain at least 5 meters of distance between each other.
- If it is not safe to follow the tracks backward, proceed forward only if the area ahead is safe.
- Move one person at a time, marking footprints as they move if possible. Evacuate slowly, following the vehicle's tracks on the ground, in the opposite direction of the danger.
- Remove any organizational logos or paint over the vehicle to prevent it from being misused by any party, such as for delivering a VBIED (Vehicle-Borne Improvised Explosive Device).

- Once the evacuation is complete, inform your operational base.

### **Witnessing an Accident: What to Do**

- Do not run to the victim.
- Do not rush or attempt to help someone who is affected or wounded.
- Try to calm the people around you and prevent them from running to assist the victim.
- Inform them that there could be additional explosive devices in the area.
- The safety of the staff is the top priority.
- Record the time and exact location of the accident (the "golden hour").
- ASK FOR HELP. Contact the operational base for directions (or the coordinator in their absence).
- From a safe area, make verbal contact with the victim.
- Talk to the victim; they may be conscious. Calm them and assure them that help is on the way.
- If the victim is conscious and able to move, provide first aid in a safe place, provided they have extracted themselves from the accident spot.
- AVOID touching the explosive device.
- Do not attempt to move it with another object.
- Do not throw sticks or stones at it.
- Do not burn it or set it on fire.
- Do not cut, stretch, or move visible cables or wires.

Now, I will be a more careful person because:

- I know that where there is one explosive device, there may be many more.
- I will avoid approaching or entering suspicious or dangerous places.
- I will avoid touching, moving, burning, or hitting suspicious objects.
- I will share knowledge of suspicious areas and safe behaviors with my team.
- If I didn't drop something, I won't pick it up.

*DO NOT TRY TO BE A HERO—WAIT FOR HELP*

## SECURITY RULES IN URBAN ENVIRONMENT

### *Potential Risk Areas*

- Locations with the presence of explosive remnants of war (ERW) or improvised explosive devices (IEDs).
- Areas where armed personnel are present.
- Crowded places, public events, demonstrations, or protests, as they could be targets for one or multiple attacks.
- Sites where vehicles have previously been used as explosive devices, or where there are damaged buildings, among other hazards.
- Locations where wounded people are present, as they may be targets for future attacks.

### *Indicators/Signs of Risk Contamination*

If you observe any of the following during your travels through the countryside or a particular area, you may already be at risk. Taking preventive actions is essential to maintain the safety of yourself and your team.

### *Indicators of shooting*

- Empty streets, closed shops, and a minimal number of people on the streets.
- Presence of security force vehicles or private security teams.
- Increased presence of armed individuals on the streets.
- Shooting into the air.
- Restricted mobility.
- Presence of obstacles on streets or roads (e.g., burning tires, rubble, debris, tree trunks, etc.).

### *Indicators of ERW (Explosive Remnants of War)*

- Signs of impact such as battle positions, craters, and fragmentation damage.
- Debris and components of any kind of abandoned ammunition, including landmines, ERW, UXOs, or IEDs.

### *Indicators of Mines*

- Damaged vehicles and dead animals.
- Unused paths and overgrown pastureland.
- Improvised or official markings.
- Abandoned buildings and habitations.
- Former combat positions, bunkers, trenches, and other military infrastructure.
- Trip wires.
- Leftover packaging or safety pins.
- Any unusual behavior by the local population.

### *Indicators of IEDs (Improvised Explosive Devices)*

- Abandoned or foreign objects, such as cars, luggage, or containers.
- Unexpected mail or deliveries.

- Unknown or suspicious individuals.
- Unusual behavior of the local population, such as avoidance.
- Visible cables, wires, or ropes.
- Ground signs: ant trails, changes in color or texture, fresh excavations, or aiming markers.
- Obstacles at choke points (barriers at narrow or strategic points that can restrict movement and may indicate potential dangers like ambushes or IEDs)
- Presence of something abnormal or the absence of something normal.

#### *Visual check*

- Choose a safe place to stop your vehicle. Avoid stopping near culverts, bridges, drainages, or other vulnerable points.
- Before getting out, inspect the immediate vicinity around your vehicle for any suspicious items or ground signs.
- One person should exit the vehicle and conduct a visual search of the immediate surroundings, including underneath the vehicle and the vehicle itself (checking for foreign objects attached to your car, as well as for any mechanical damage or leaks).
- 5-Meter Check:  
-Conduct a visual search of the area around you within a 5-meter radius. Examine the ground as well as higher dimensions (walls, pylons, trees, houses).
- 5 to 25-Meter Check (if you intend to stay static):  
-Conduct a visual search of the area around you within a 25-meter radius. Focus on identifying any suspicious locations, hiding places, or foreign objects (hotspots).
- If a suspicious item is identified, mark it (if appropriate) and withdraw to your vehicle. Move to a safe location and report your findings.

#### *Standard 9-line UXO Report*

- Line 1: Date/Time Group Discovered: (Command policy will dictate whether to use local time or Zulu time, which is Coordinated Universal Time (UTC), a standard time used worldwide to avoid confusion across time zones).
- Line 2: Reporting Activity: Provide the unit identification code (UIC) or unit designation, and the exact location of the UXO using an 8-digit grid coordinate. An 8-digit grid coordinate is a precise way to pinpoint a location on a map, typically within a 10-meter accuracy. It is commonly used in military and mapping contexts. Additionally, include any nearby landmarks, reference points, or street addresses to further clarify the location.
- Line 3: Contact Method: Radio Frequency/Call Sign or Telephone Number. (If using a phone number, provide the name of the contact).
- Line 4: Type of Munition: Indicate whether it was dropped, projected, placed, or thrown.
- Line 5: CBRN Contamination: Yes or No. Include any known or suspected CBRN (Nuclear, Chemical, Biological, Radiological, Nuclear) contamination. If yes, report the type of agent if known/identified.
- Line 6: Resources Threatened: Specify what resource is threatened (e.g., critical asset).

- Line 7: Impact on Mission: Describe how the UXO is affecting the mission.
- Line 8: Protective Measures Taken: Detail any protective measures that have been implemented by the unit.
- Line 9: Recommended Priority: Classify the threat level as Immediate, Indirect, Minor, or No Threat.

#### *Minimum Required Reporting Information*

At a minimum, the report must contain the following information. While proper format is important, getting the information to higher headquarters (HQ) is the priority:

- (a) Who: Identify the person who discovered the item (Point of Contact).
- (b) What: Describe the item (type/sub-group).
- (c) Where: Provide the location of the UXO (include an 8-digit grid coordinate if possible).
- (d) When: Specify the date and time the item was discovered.
- (e) Recommended Priority: Classify the threat level as Immediate, Indirect, Minor, or No Threat.

#### **What to do in case of crossfire or stray bullets**

- Search for a safe hideout.
- The best way to hide is to lie down on the floor and remain out of sight.
- Avoid curiosity and do not look through windows.
- Stay lying down and crawl to a place with at least two walls between you and the direction from which the shots are coming. If possible, choose a location with a roof as well.
- Stay there and wait until the shooting has ended.
- Wait for 15 minutes after the firing has stopped before moving.
- Avoid evacuating the wounded and injured in the middle of a crossfire. Do not put your life or the lives of others in danger.

#### **Actions to Take When in a Vehicle During Nearby Shooting**

If you are in a vehicle, there are two options:

- If the shooting is taking place near your position (approximately 50-100 meters), the best option is to leave the vehicle and find a safe place to hide away from the street. If you decide to do this, take caution to avoid being hit by bullets.
- If the shooting is coming from a long distance and not on the same road, place, or street you are on or traveling through, the best option is to rapidly drive away or leave the area.

Drive with windows slightly open and the music low so you can hear any shooting.

#### **Clashes/Harassment**

- Identify safe locations to regroup in case of clashes or harassment.

- Avoid evacuating the wounded and injured during active clashes. Do not put your life or the lives of others at risk.

## **Explosion**

*If you hear a grenade:*

- Immediately drop to the floor. Do not run for cover.
- Shout “Grenade!” to alert your colleagues.
- Cover your ears and slightly open your mouth to reduce the impact of the blast.

*After the explosion:*

- Wait 15 to 20 minutes to ensure there are no additional explosions.

*If the explosive device does not detonate:*

- Keep yourself and others at a safe distance from the device.

*Do not rush to the scene:*

- There may be a secondary attack.

*Protection by structure thickness:*

- Metal: 1 cm
- Concrete: 20 cm
- Brick: 40 cm
- Sand: 70 cm
- Wood: 90 cm
- Soil: 100 cm

## **Safety procedures in case of airstrikes**

*Gather Information:*

- Continuously monitor various sources for updates on military activities and the types of weapons likely to be used in your area.
- Stay informed about any military movements nearby that could indicate an increased risk.

*Avoid High-Risk Areas:*

- Never travel in high-risk areas unless absolutely necessary.
- Avoid locations that could be potential targets for airstrikes, such as airfields, military positions, official buildings, large harbors, and other strategic facilities. The best way to protect your family from airstrikes is to stay as far away as possible from these potential targets.

*Mark and Notify Your Locations:*

- Ensure that all relevant parties are clearly notified of your locations, including offices, residences, warehouses, etc.

- Mark buildings and vehicles with your organization's logo using visible paint to ensure they can be identified from the air. This visibility can significantly enhance security in such situations.
- Confirm that the parties to the conflict have your locations clearly plotted on their operational maps.

*Improve Site Protection:*

- Consider enhancing your site's protection with measures such as window reinforcement, blast walls, and shelters.
- Install blast-resistant film on office and residence windows to minimize injuries caused by flying glass and debris during a bomb blast. It is important to note that up to 80% of casualties inside buildings affected by blasts are due to glass fragments.
- If replacing glass is not an option, heavy curtains can help contain glass fragments, though they must be kept closed and can be expensive. Remove any objects from window sills, such as potted plants, that could become lethal projectiles during a blast.
- Move desks, seating areas, and beds away from windows to further reduce the risk of injury from airborne debris.

*Respond to Warnings:*

- The warning time for airstrikes can be extremely short. Observe the local population, as they often have experience with the dangers and can recognize signs of an impending attack. If they run for shelter, follow immediately without asking questions.
- In a new area, inquire upon arrival about the local threats and any warning signals that may be used.
- Be alert for other warning signs, such as anti-aircraft gunfire or the appearance of a "spotter plane," which may precede an airstrike. These small aircraft often guide fighter jets to their targets, and the local population usually knows what they signify—take cover immediately upon seeing them.
- In less sophisticated conflict zones, pilots may make an initial pass over a town or position to identify their target before attacking. Do not wait for a second pass—take cover immediately.

*Establish and Use Shelters:*

- Establish a well-equipped shelter, as it can be crucial to your survival. The best protection is offered by a well-constructed, purpose-built shelter made of concrete.
- While even the strongest concrete bunkers may not withstand a direct hit, they provide excellent protection from fragments and blast effects.
- Warn your colleagues as well. Use a clear alert such as "Air attack! Take cover!" and repeat it three or four times as you head to the shelter.



## Surviving an Incident: When to Seek Shelter

### *Be alert at all times:*

- If you see or hear airstrikes, notice the sound of planes overhead, hear air raid sirens, or witness civilians running for shelter, take immediate action. The situation may be difficult to assess, and it can be challenging to determine where the threat is coming from or what the intended target might be. Although you are unlikely to be the direct target, your location may still put you at risk. Your response will depend on your awareness, proximity to the airstrikes, and the available cover. Here are the steps you should take:

### *Operational Alerts:*

- The operational base should report any threats and send warning messages immediately to all employees. Staff should be reminded via Lotus Notes and SMS to keep their phones close and to take all messages from the operational base very seriously.

### *If You Are in a Building When an Explosion Occurs:*

- React immediately. You do not know when or where the next airstrike will land. Use all possible communication methods to warn others—shout loudly to alert them to head directly to shelter and take cover. Rapidly take action for self-protection. Ensure all staff are trained on how to react and know where to seek shelter in the event of airstrikes. Regularly practice emergency drills.
- Drop to the floor, move away from windows, and take cover under a sturdy table. Stay away from windows and resist the temptation to look outside. Wait for the effects of the blast to subside, and then, if safe, seek better cover. Try to get as low in the building as possible. Move quickly to an inner room, a corridor, or an appropriate shelter, preferably an underground bunker, basement, safety room, cellar, or emergency trench. If these are not available, move to a safe area on the ground floor, such as in doorways or beneath concrete staircases.

### *After the Airstrikes:*

- Wait until the airstrikes have ceased before leaving your cover to assess the situation. It is recommended to stay indoors for approximately 25 to 30 minutes after the airstrikes and ceasefire from ground anti-aircraft guns, as debris or returning bullets may still pose a danger. Evacuate the building only when it is deemed safe or when instructed by authorities.

### *If You Are Outside:*

- Staff who are in open areas outside the organization's buildings should immediately return indoors to their offices or other covered premises.
- If unable to return to a building, find the nearest hard cover, such as a solid roof under a bridge or in a tunnel, to protect yourself from debris or returned bullets. Avoid open areas.

#### *If You Are on Foot:*

- The chances of being caught in an explosion are low, but if you are in the vicinity when one occurs, your first response should be to reduce the impact of the blast. After surviving the initial explosion, be aware of additional risks such as fragmentation or a second bomb intended to target rescue teams or crowds. Seek immediate cover, drop quickly to the ground, and lie flat, face down. Since most blast debris and shrapnel travel upwards, staying low increases your chances of avoiding injury. Cover your ears and keep your mouth open to reduce the effects of blast pressure. If possible, move to better cover, such as a ditch or any space below ground level.
- Do not leave your cover until you are sure the airstrikes have stopped. The initial bomb might be followed by others, possibly closer to you. Wait for the effects of the blast to subside, and then, if possible, move to better shelter—such as a ditch, building, or behind a wall. Observe the reactions of those around you to understand what is happening. After the explosion, leave the area quickly once you feel it is safe to do so, and report the incident to your base.

#### *If You Are Driving:*

- If driving in an open area during an airstrike, stop the car in a safe place on the roadside and leave the vehicle immediately. Search for hard cover, as a car does not provide sufficient protection. If no hard cover is available, move at least 200 meters away from the vehicle and lie flat on the open ground.
- If airstrikes occur close by or the vehicle route is blocked, stop the vehicle, get out quickly, and lie flat on the ground away from the vehicle, as it may explode or create additional shrapnel if hit. If the airstrikes are at a distance, try to assess the situation and drive away to safety. If the airstrikes seem to be getting closer, stop, leave the vehicle, and seek cover. Ensure the airstrikes have ceased and that it is safe to return to the vehicle before doing so. Once at a safe distance, stop and report the incident to your base.

#### *Handling Suspicious Objects:*

- Do not approach or touch any suspicious objects falling from the sky. Treat all unknown objects as unexploded ordnance (UXO) and avoid contact.

#### *Safety Training:*

- Hold safety sessions for all organization staff before field trips to remind them of safety procedures related to UXO and landmine contamination.

#### *Reporting:*

- Report any suspicious objects or incidents to the operational base or concerned department immediately.

## **SAFETY PROCEDURES FOR RECOVERING DEAD BODIES**

When working within 50 meters of dead bodies, it is crucial to mark safe areas and lanes using tape or another marking system. Staff must only move and operate within these safe areas. You must adhere to the following safety procedures when dealing with deceased individuals:

### *Approaching the Dead Body:*

- Exercise extreme caution with each step when approaching a dead body. Before attempting to move it, be vigilant for any potential hazards.
- The dead body should be inspected visually from a safe distance before any closer examination or handling.
- Carefully examine the body for any attached wires, explosive devices, or signs that it may be booby-trapped. Ensure that there are no mines, traps, or any other hazards surrounding the body.
- Roll the body over with great care, especially if it belongs to a combatant or soldier.
- Number or code the body for identification purposes.
- Thoroughly assess the area for a safe place to reposition the body if needed.
- Prepare a detailed report on the dead bodies and the circumstances surrounding their discovery. The report should address the "5 Ws": Who, What, When, Where, and Why.

### *General Guidelines While Handling Dead Bodies:*

#### a) Documentation:

- Ensure that all team members take detailed notes about the circumstances surrounding the death. These notes will be necessary for coroner reports.
- Wrap the body in a tent or ground sheet and secure it with rocks or other materials to protect it from animals and the elements.

#### b) Personal Safety:

- Avoid direct contact with blood or body fluids from the deceased.
- Maintain strict personal hygiene and wear appropriate personal protective equipment (PPE) such as gloves, boots, water-repellent gowns, and surgical masks. Use impermeable and disposable overalls when necessary.
- Use goggles or a face shield to protect your eyes from potential splashes.
- Ensure that any wounds are covered with waterproof bandages or dressings.
- Do not smoke, drink, eat, or touch your eyes, mouth, or nose while handling the dead body.
- Remove PPE after handling the body and wash your hands with liquid soap and water immediately.
- Mark the area for mines and ensure the site is cleared if necessary.

### *Environmental Control:*

- Ensure a ready supply of disposable gloves, protective equipment, alcohol-based hand rubs, and disinfectants (e.g., household bleach).

- After use, dispose of items such as gloves and protective clothing in a plastic bag.
- Wipe down all surfaces that may have been contaminated.

*Handling Dead Bodies in Hazardous Areas:*

- If dead bodies are located in a hazardous area (HA) that has not been cleared, or if the guide deems the area unsafe, the recovery task should be canceled. Dead Bodies Recovery Teams are not mine action teams and should not take any risks under any circumstances.
- If the task must proceed, the Dead Bodies Recovery Team should contact the DMA (Demining and Mine Action) or the Mine Action Agency (MAA) to conduct clearance before recovering the bodies. The recovery team must not enter any area suspected of being unsafe until it has been cleared by the appropriate authorities.

*Actions When Finding Dead Bodies with Mines/Explosives:*

- If a dead body is found with unexploded ordnance (UXO) or any other explosive attached to it:
  - Do not touch or move the body. Leave it as it was found.
  - Take photographs of the body, focusing on the UXO for identification purposes.
  - Record the GPS coordinates of the body or approximate the location using available maps. If possible, use geographic decimal degrees (dd.ddddd).
  - Mark the area around the UXO-contaminated body with improvised danger markings, ideally using official mine/UXO warning signs. Use triangles, red/white tape, or color spray that can be seen from all directions.
  - Evacuate the site immediately.
  - Record the time and date of the discovery, and document the group number involved in the recovery.
  - Send all details, including coordinates, pictures, and descriptions, to the Protection Team and Operating Unit, who will report to the DMA and MAA.

*Booby-Trapped Dead Bodies:*

- In conflict zones like Syria, there have been incidents where dead bodies were intentionally booby-trapped to cause further injuries. If there is any evidence or suspicion of booby-traps in the area, the recovery task should be automatically canceled. Further action should only be taken once EOD (Explosive Ordnance Disposal) specialists are involved, and specific mine/ERW (Explosive Remnants of War) awareness training has been provided and TTPs (Tactics, Techniques, and Procedures) have been approved.

*Identifying Contaminated Areas:*

- If the team does not feel confident with the available information, direct evidence of contamination should be identified to determine if the area is safe. This includes:
  - Visual Observations: Look for mines, ERW, or their parts, fragmentation, craters, or disturbed soil.
  - Mine Signs: Look for fencing, ancillary equipment (boxes, canisters), or other indicators associated with contamination.

- Accidents or Incidents: Take note of any mine/ERW accidents where the location is clearly determined.
- Local Testimonies: Consider testimonies from local communities about the existence of mines or ERW.
- If any direct evidence of contamination is found, the area should be considered unsafe, and the task canceled. Indirect evidence, such as unused productive land or verbal reports from locals, should also be considered. If in doubt, treat the area as unsafe.

*Rules for Safety:*

- Your safety is paramount. If your safety is not guaranteed, do not proceed with the task.
- Call for help. Civil Defense and DMA coordinate mine action activities and clearance tasks.
- Do not touch the body. Leave it as it was found and avoid attempting to defuse or render it safe—this is the work of EOD specialists.
- Take pictures of the ERW and contamination without putting yourself in danger. Use your phone in flight mode to avoid triggering a Radio Frequency hazard.
- Record the position of the body using GPS or a sketch to assist the EOD/IEDD Team.
- Mark the area around the UXO-contaminated body to warn others of the danger.
- Evacuate the area and move to a safe location.

*Training and Preparation:*

- Specific landmine and UXO contamination courses should be conducted regularly for recovery teams in the field, including refresher training. This is essential for all team members, including any forensic teams working on the ground.

## **RECAP – SAFE BEHAVIOUR**

### *1. Before the Mission:*

- **Gather Comprehensive Information:** Prior to any operation, thoroughly research the operational environment. This includes understanding the local geography, recent military activities, and the types of threats that may be present. Utilize all available resources, such as maps, intelligence reports, and local contacts, to plan your movements effectively.
- **Identify and Stick to Safe Areas:** Make a habit of using clearly designated safe areas, such as roads and paths that are regularly used, paved, or have been confirmed as cleared by reliable sources. Avoid venturing into unknown or unpaved ground, abandoned infrastructure, or areas that have seen recent combat, as these are high-risk zones for mines and other explosive remnants of war (ERW).

### *2. During the Mission:*

- **Avoid Suspicious Items at All Costs:** If you encounter an unfamiliar object, do not touch it. Treat every unknown or suspicious item as potentially dangerous, assuming it could be an explosive ordnance or a booby trap until it has been thoroughly checked by trained personnel.
- **Maintain Constant Vigilance:** Continuously observe and scan your surroundings for any signs of danger, such as disturbed soil, wires, or objects that seem out of place. Regularly assess your environment, especially in areas known to have been affected by conflict or military activity.
- **Perform Safety Checks When Exiting Vehicles:** When disembarking from vehicles, it is critical to perform a 360-degree check, also known as the 5/25 check. This involves first scanning the immediate 5-meter radius around the vehicle for any threats, then extending the check to a 25-meter radius to ensure that the broader area is safe before proceeding.

### *3. Upon Discovery of an Explosive Ordinance:*

- **Stop Immediately and Assess:** If you spot a suspicious item, halt all movement immediately. Explosive ordnance does not typically detonate without external disturbance, so remaining still can prevent triggering an explosion. Carefully assess the situation without approaching the item.
- **Alert Others to the Danger:** It is vital to warn your team members and any bystanders as soon as you identify a potential threat. Clear communication can save lives by preventing others from inadvertently entering a hazardous area.
- **Confirm the Threat and Mark the Area:** If it is safe to do so, confirm that the item is indeed a threat. Use any available materials to mark the object's location, ensuring that the marker is visible but does not disturb the object. If there is any suspicion that the item might be a mine or an IED, do not approach it under any circumstances.
- **Move to a Secure Location:** If the situation allows, move yourself and others to a safe distance from the suspected explosive. Establish a cordon around the hazardous area to prevent further access and to protect others from harm.

- **Stay Put in Mined Areas:** If you find yourself in a mined area, do not attempt to move. Wait for specialized assistance to arrive, as even a small movement could trigger an explosive.
- **Report the Incident Promptly:** As soon as it is safe, report the discovery of the explosive to the appropriate authorities, such as the EOD team or local emergency services. Provide them with detailed information about the location and the nature of the threat.
- **Coordinate with Local Authorities:** If possible, involve local authorities in securing the area. They can assist in maintaining the safety cordon and ensuring that emergency services approach from a safe direction. Ensure that all responders are fully briefed upon arrival.

#### 4. *Critical Actions - The 5 C's:*

- **Confirm:** Accurately identify the threat and confirm its presence without approaching or disturbing it.
- **Clear:** If it is safe, move yourself and others to a safe distance from the threat to minimize the risk of harm.
- **Call:** Immediately notify the appropriate authorities or the EOD team, providing them with precise information about the threat and its location.
- **Cordon:** Establish a clear perimeter around the hazardous area to prevent unauthorized access and to protect others from the threat.
- **Control:** Maintain control of the situation by ensuring that no one re-enters the danger zone until the area has been cleared by professionals.

#### 5. *Post-Incident Actions:*

- **Debrief and Report:** After the incident has been resolved, conduct a thorough debrief with your team. Discuss what happened, how it was handled, and any lessons learned that can improve future operations. Ensure that all relevant information is reported back to the operational base.
- **Document the Incident:** Keep detailed records of the incident, including the time, location, and nature of the threat, as well as the actions taken to resolve it. This documentation is crucial for ongoing safety and operational planning.
- **Review and Update Procedures:** Based on the incident and debriefing, review and, if necessary, update your safety procedures. Ensure that all team members are aware of any changes and understand the importance of adhering to them.

#### 6. *Continuous Training and Preparation:*

- **Regular Drills and Refreshers:** Regularly conduct drills and refresher training for all team members to ensure that they are familiar with safety procedures and can react effectively in an emergency. This includes specific training on recognizing and responding to various types of explosive threats.
- **Stay Informed:** Encourage all team members to stay informed about the latest developments in safety protocols, threat identification, and response procedures. This knowledge can be life-saving in the field.

**Table of Abbreviations and Acronyms**

<b>Abbreviation/Acronym</b>	<b>Full Form</b>
<b>ERW</b>	<b>Explosive Remnants of War</b>
<b>UXO</b>	<b>Unexploded Ordnance</b>
<b>IED</b>	<b>Improvised Explosive Device</b>
<b>EOD</b>	<b>Explosive Ordnance Disposal</b>
<b>IEDD</b>	<b>Improvised Explosive Device Disposal</b>
<b>HA</b>	<b>Hazardous Area</b>
<b>MAA</b>	<b>Mine Action Agency</b>
<b>DMA</b>	<b>Department of Mine Action</b>
<b>VBIED</b>	<b>Vehicle-Borne Improvised Explosive Device</b>
<b>CBRN</b>	<b>Chemical Biological, Radiological, Nuclear</b>
<b>UIC</b>	<b>Unit Identification Code</b>
<b>GPS</b>	<b>Global Positioning System</b>
<b>PPE</b>	<b>Personal Protective Equipment</b>
<b>PROT</b>	<b>Protection Team</b>
<b>TTPs</b>	<b>Tactics, Techniques, and Procedures</b>



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- Mr. Mohammed Alkuhaly is a seasoned expert in Chemical, Biological, Radiological, and Nuclear (CBRN) defense, with a rich background in both military and humanitarian sectors. He holds dual Bachelor’s degrees in Finance & Accounting and Military Sciences, coupled with extensive experience in unconventional threats. A former military officer, Mr. Alkuhaly served in Yemen's Special Forces and Republican Guard, specifically within the Chemical Department, after graduating from the Military Academy in Dresden, Germany, in 2002. Specializing in protection against Weapons of Mass Destruction, Mr. Alkuhaly advanced to the rank of Senior Technical Advisor in the Yemeni Armed Forces. His expertise further extended to international humanitarian work, where he served as a Weapon Contamination Field Officer and Coordinator for the Weapon Contamination Department with the International Committee of the Red Cross (ICRC) for five years. In 2015, Mr. Alkuhaly transitioned to the private sector, working as a Mine Action Consultant. In this role, he played a pivotal part in establishing a highly qualified team dedicated to demining and explosive ordnance removal. He partnered with various organizations to eliminate deadly explosives and mitigate the risks they pose, adhering to the highest standards, including the International Mine Action Standards (IMAS).

## Disclaimer

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