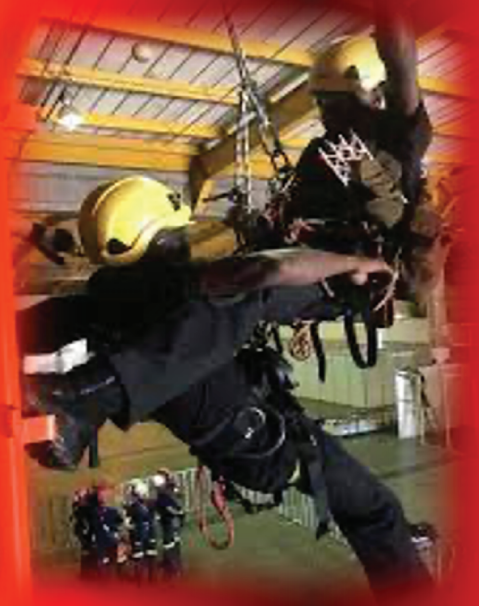
THE UNITED REPUBLIC OF TANZANIA

MINISTRY OF HOME AFFAIRS

FIRE AND RESCUE FORCE



STANDARD OPERATING PROCEDURE MANUAL

Second Edition

VOLUME VIII

RESCUE EMERGENCY OPERATION

2025

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INTRODUCTION

Search, Rescue and Evacuation SOP are a series of steps that the FRF Technical Search and Rescue Team follows for general and/or sector-specific operations. The general SOPs define the main rules of the deployment of the team. All the knowledge learned at the end of every deployment feeds back the general SOPs to improve them. The sector-specific SOPs provide a description for the main technical activities that should be carryout at the scene.

This Volume includes thirty-one (31 SOPs as working tools to Fire and Rescue personnel the fact that a number of elements such as medical care workers, firefighting teams, search and rescue teams, disaster management teams, and local non-governmental organizations are desired to execute duties generally creates a problem in providing coordination of response operations. When taking into consideration these duties, it is possible to say that search and rescue teams are the first intervention teams to enter the scene after the disaster

In order to decrease the damages and hazards which might occur during an emergency or a disaster, it is an obligation for all responsible parties to plan the emergency and disaster response operations and to be prepared for an emergency or a disaster at all times. The Coordination of Emergency and Disaster Response Operations. According to the Law Concerning the Organization and duties of searching and rescuing injured, providing their security and making the damaged or blocked structures safe are the main duties of the FRF and provides coordination and control of emergency response operations on an effective regular and disciplined basis 24 hours a day, 7 days a week, 365 days a year.

SOP 1: PARAMEDIC SERVICES

1.0 SCOPE

The following standards of care shall apply to all patients treated by Fire and Rescue paramedic Services

a. All patients are to be treated with respect.
b. An individual becomes a patient when presenting with a chief complaint or evidence of a medical condition or injury or upon discovery of vital signs outside normal values.
c. Consultation with an on-line medical control physician prior to initiation of non-life-threatening therapeutic modalities outside the context of these protocols remains the standard.
d. The sole exception is being life-saving care.

   Lifesaving care is defined as any or all measures which having the purpose of immediate preservation of life and/or the establishment of means by which life might be preserved.
e. The Medical Control Physician shall be defined as the emergency Paramedic attending physician.
f. Patient care is by nature unpredictable and patients may require care derived from multiple protocols, or in the absence of these, on-line medical control.

The following protocols are written with this reality in mind. Deviations from protocol will be tolerated only when it is intended to further patient care. Such deviations must in no way detract from the high level of patient care expected from pre-hospital care providers associated with FRF Paramedic system.

g. The CAB's (Circulation, Airway, and Breathing) will always take priority in patient management. Maneuvers required securing the airway, ensuring adequate gas exchange, and establishing adequate tissue perfusion should always supersede specific protocol statements.
h. Orders communicated directly from the on-line Medical Control Physician to the paramedics caring for the patient may supersede established protocol.

i. The Paramedic Officer of each unit is responsible for the completion of a patient care report on every patient contact, regardless of treatment administered. Paramedics will complete Advance Life Support (ALS) reports and Emergency Medical Team's (EMT) may complete Basic Life Support (BLS) reports at the discretion of the Company Officer.

j. Complications, problems, or requests for additional orders during treatment will be directed to the on-line Medical Control Physician. Additional questions or problems should be directed to the Medical Doctor after the incident.

k. Emergency responders functioning at the BLS level will be expected to conform to FRF BLS Medical protocols to the extent that their training and certifications allow.

l. Paramedic officer may cancel their response by any of the following means:

- The requester calls back and advises that they no longer need EMS to respond,
- Another Advanced Life Support (ALS) unit arrives on the scene and determines additional ALS units are not needed,
- LEA or a Basic Life Support (BLS) unit advises there is no patient.

NOTE: The only recognized reason for cancellation by another Public Safety Agency is for "no patient on the scene". The Medic unit will continue response for a minor injury or for a patient refusing treatment.

A. INITIATION OF CARDIOPULMONARY RESUSCITATION (CPR)

All patients found in cardiopulmonary arrest by Paramedic personnel will receive cardiopulmonary resuscitation (CPR). CPR will be initiated using the American Heart Association standards for adults, children or infants.

Exceptions:

- If there is any question about the validity of the DNR document, the Paramedic shall contact the online medical control physician

at Regional/ Referral Hospital there is a clear understanding as to the validity of the order, CPR will be performed

- Any patient who presents as obviously dead.

Cardiopulmonary Resuscitation may be halted When:

- Effective spontaneous ventilation and circulation have been restored as per guidelines
- Resuscitation efforts have been transferred to persons of no less skill than the initial providers
- The rescuer is exhausted and physically unable to continue resuscitation.
- All criteria have been met per Protocol

B. DETERMINATION OF DEATH

The FRF Paramedic team does not pronounce death; rather, it is determined to exist.

What to look for:

Death is determined to be present if all of the following are evident:

- Unresponsive
- Pulseless
- Apneic
- Absence of electrical activity on cardiac monitor in 2 or more leads
- Additionally, at least one of the following will be present to determine that death has occurred:
- Lividity, rigor mortis, or generalized cyanosis
- Decomposition of body tissue
- Decapitation, incineration
- Destruction of brain or heart
- Once it is determined that death has occurred, the Paramedic team will request/notify LEA.
- The body will not be left unattended until LEA is present.

- If this may be a crime scene, nothing in and around the immediate area should be disturbed.
- Patients who are in a hypothermic environment may respond to resuscitation measures for a longer period. Therefore, hypothermic patients should be resuscitated until normal body temperature is achieved.

When in doubt, resuscitate and transport.

- The criteria noted herein DO NOT apply in the situation of a Mass Casualty Incident [MCI].

TERMINATION OF CARDIOPULMONARY RESUSCITATION

The Paramedic has the discretion to continue resuscitation efforts in any case despite Termination of Resuscitation

Criteria to meet if scene safety, location, patient's age, time of arrest, or bystander input compels this decision.

When asystole is seen on the cardiac monitor, verification of the rhythm shall include a printed rhythm strip as well as interpretation of the rhythm in more than one lead. Low amplitude V-Fib or PEA may be difficult to distinguish from asystole when using only the cardiac monitor display for interpretation. Medical Control Contact Not Required/Asystole

The Paramedic may terminate resuscitative efforts in non-hypothermic adults provided all 5 of the following criteria exist after 20 minutes of CPR:

- Initial rhythm is Asystole confirmed in two leads on a printed rhythm strip
- Rhythm remains in Asystole throughout resuscitative efforts
- Secure airway confirmed by digital capnography (ETT or King LTA)
- Medication efforts have been exhausted per Guidelines

Quantitative ETCO2 value is <10 mm HG with effective CPR

Do not terminate resuscitation efforts if transport has been initiated. In the case of extenuating circumstances, contact Medical Control for direction.

C. BASIC PARAMEDIC CARE PROCEDURE

The phrase “Basic Paramedic Care” is used throughout the entire protocol as the first direction in patient care. This phrase will encompass all of the following and includes all of the BLS care protocols that are appropriate to the patient.

Scene size up:

- Utilize Personal Protective Equipment
- Assess the scene for hazards
- Park unit in a safe place
- Protect yourself and crew members
- Assess for the number of patients
- Assess the need for additional resources
- Assess the general condition of the patient(s)

Establish responsiveness:

If unresponsive;

- Basic Life Support
- Establish patent airway, open airway if necessary protecting cervical spine when indicated
- Supplemental oxygen if any respiratory signs or symptoms present
- Record and monitor vital signs
- Control bleeding when indicated
- Record Blood Glucose Level if any weakness, altered mental status or history of diabetes
- Nothing by mouth, unless patient is a known diabetic with hypoglycemia and is able to self-administer oral Glucose Paste, or a glucose containing beverage
- Advanced Life Support
- When condition warrants (specified as “Full ALS Assessment and Treatment” in individual protocols):
- Advanced airway/ventilator management as needed
- Perform cardiac monitoring

- Evaluate 12-lead ECG if chest pain, abdominal pain above the umbilicus or ischemic equivalent symptoms (dizziness, weakness, shortness of breath)
- Obtain vital signs
- Obtain history and perform physical exam
- Record & monitor continuous 02 saturation and microstream capnography
- IV 0.9% NaCl KVO or IV lock
- If evidence of dehydration (tachycardia, dry mucous membranes, poor skin turgor) administer boluses of 0.9% NaCl at 250 ml (hold at 500 ml total if no hypotension)
- If BP < 90 mm Hg systolic, administer boluses of 0.9% NaCl at 250 ml unti systolic BP > 90 mm Hg
- Contraindicated if evidence of congestive heart failure (e.g. rales)
- If Hypoglycemic (Blood glucose < 70 mg/dL [<50mg/dL if stroke]) with IV access
- Dextrose 50% 25 gm slow IVP
- Repeat Dextrose 50% 25 gm once if blood glucose < 70 mg/dl after 10 minutes
- If Hypoglycemic (Blood glucose < 70 mg/dL, [< 50 mg/dL if stroke]) without IV access
- Glucose paste or other oral glucose containing agent (e.g. orange juice) if patient alert enough to self-administer oral agent
- If unable to take oral glucose administer Glucagon 1 mg IM
- Transport patient to nearest appropriate Health Centers
- Minimize on scene time when possible
- Frequently reassess patient
- Contact Medical Control for any additional orders or questions

D. AIRWAY MANAGEMENT

Management of a patient's airway is paramount to life support. The management of a patient's airway shall include the following in order from BLS to ALS:

- Position the head using the head tilt-chin lift method unless trauma is suspected
- The airway of a suspected trauma patient should be opened using the modified jaw thrust maneuver
- Use suction as needed to clear airway
- Use oral or nasal pharyngeal airway adjuncts
- Consider King LT tube
- Request ALS intervention

Assisted Ventilations:

- Adult patients with a respiratory rate less than 12 or greater than 28 breaths per minute and/or exhibiting sign of hypoxemia may require assisted ventilations. This shall include use of any of the following methods:
- Utilizing Bag Valve Mask (BVM) and basic airway maneuvers, with supplemental **Oxygen**.
- Deliver enough volume to make the chest rise.
- Mouth-to-mouth, mouth-to-nose, mouth-to-stoma (at provider option when adjuncts are not available). If any of these methods are employed an incident report **MUST** be filled out because of the exposure.
- Pediatric patients with signs of hypoxemia and or respiratory distress (including bradycardia, abnormal breath sounds, and increased work of breathing, nasal flaring, retractions, stridor or abnormal positioning) should have ventilations assisted with a mask that covers both mouth and nose, but not eyes. This can be accomplished utilizing:
- Pediatric Bag Valve Mask (BVM) and reservoir with supplemental Oxygen at 10-25 LPM.
- Mouth-to-mouth, mouth-to-nose, mouth-to-stoma (at provider option when adjuncts are not available.) If any of these methods are employed an incident report **MUST** be filled out because of the exposure.

E. OXYGEN THERAPY

Oxygen to be administered to patients who:

- Display signs and symptoms of hypoxia
- Present in hypotensive states
- Have suffered major trauma
- Present as acutely ill
- Are suspected of carbon monoxide inhalation (regardless of SaO2 reading)
- Are pregnant and may have reason for fetal hypoxia
- Any patient who you suspect may become hypoxic due to mechanism of injury or nature of illness regardless of oxygen saturation level.
- If patient is able to maintain SaO2 greater than 94% you may elect not to administer O2.

Methods of administration include:

- Nasal cannula 1-6 LPM = 24-40%
- Non re-breather mask 12-15 LPM = 90-95%
- Bag Valve Mask with reservoir 10-25 LPM = 90-100%
- Oxygen powered Ventilator N/A = 100%
- Ventilator 40-60 LPM = 21-100%

Never withhold oxygen therapy from any patient who displays a need for it.

F. CONTROL OF EXTERNAL BLEEDING

Whenever the term "**Control external bleeding"** is used throughout these procedure, the following elements must be considered,

- Application of direct pressure with a sterile dressing
- Elevation of the injured part above the level of the heart
- Application of a pressure dressing
- Application of pressure to proper arterial pressure point
- Application of a Tourniquet
- Should be applied early when there is SEVERE arterial bleeding present.

Studies show considerable increase in survival rate when applied prior to the onset of shock

G. SHOCK

Decompensated Shock:

Any adult patient exhibiting signs of inadequate perfusion, which may include:

- Altered mental status (e.g. lethargy, coma)
- Tachycardia
- Pallor
- Diaphoresis
- Pale conjunctiva
- Delayed capillary refill
- Orthostatic vital sign changes
- Low Blood Pressure
- Thirst

Any pediatric patient having a systolic blood pressure BELOW normal [(patient age x 2) + 70] or the following signs of inadequate central (proximal) perfusion:

- Altered mental status (e.g. lethargy, coma)
- Profound tachycardia or bradycardia
- Delayed capillary refill time (greater than 2 seconds)
- Any of the adult signs listed above

Procedure:

- Place patient in supine position
- Oxygen via NRBM @ 10-25 liters/minute
- Maintain body temperature
- Request ALS assistance

H. MASS CASUALTY INCIDENT AND TRIAGE SYSTEM

Definition:

A Mass Casualty incident or "MCI" is defined as any event that overwhelms the resources of the EMS system.

Fire and Rescue Force EMS system resources may vary at different times.

Procedure:

- The need for an organized and orderly approach to an MCI cannot be over stressed.
- The FRF SOG has an established guide for implementation of the incident command system which should be active for any MCI.
- Triage of patients at the scene of an MCI should be accomplished using the START/JUMPSTART triage system as listed below
- Patients injury/illness severity will be identified as one of the following four categories:
    - Red – Requires immediate transportation.
    - Yellow – Requires transportation but can be delayed.
    - Green – Ambulatory "walking wounded" with minor injuries.
    - Black – Deceased- not transported
    - Coordination of patients with area hospitals must be accomplished through the incident command system.
    - The steps of the Start triage systems are as follows.

STEP ONE: Loudly ask anyone within the sound of your voice to move to a designated area if they are able. This will automatically help you sort out the walking wounded and these patients should be tagged green.

STEP TWO: In an orderly fashion, move to each patient checking for the status of Airway, Breathing, Circulation and Mental status and tag them using the following rules

Breathing:

- Yes, if respirations less than 30 then check circulation.
- Yes, if respirations greater than 30 =triage RED.
- No, open and clear airway- if breathing begins =triage RED
- No, after clearing airway the patient is not breathing =triage Black

CIRCULATION: (Check pulse)

- Control bleeding
- Weak pulse=triage **RED**
- Strong Pulse= go to metal status check or check capillary refill time (CRT)
- CRT: If less than 2 seconds go to mental status check
- CRT: If greater than 2 seconds=triage **RED**

Mental Status: (Commands "open your eyes, squeeze my hand, etc.)

- Patient follows commands = triage **Yellow**
- Fails to follow simple commands =triage **RED**

A simple flow chart below will demonstrate the progression of triage with each individual, including pediatric patients.

I. CHEST PAIN-SUSPECTED CARDIAC

Procedure:

- Basic Medical Care
- Airway management
- Define pain response using OPQRST:
    - Onset, Provocation, Quality, Radiation, Severity, Time
    - If patient has a history of Diabetes, consider symptoms other than pain to evaluate for a silent MI
    - Cardiac monitor -Treat dysrhythmias as indicated
    - Cardiac rhythm and the presence of a blood pressure must be assessed prior to and between each therapeutic measure when treating cardiac dysrhythmias with a pulse.
    - Obtain a 12-lead EKG as soon as possible
    - Repeat 12-lead EKG after treatment or changes in patient condition (as time permits).
    - Vascular Access

If chest pain is considered cardiac in origin

- Administer supplemental oxygen if the patient is dyspneic, hypoxemic, or has obvious signs of heart failure. Providers should titrate therapy, based on monitoring of oxy-hemoglobin saturation, to greater than or equal to 94%.
- Administer **Nitroglycerin**
- Spray/tablet SL every 5 minutes **until pain relieved**
- After administration of **Nitroglycerin** re-check vital signs to ensure the patient is hemodynamically stable
    - **Apply Nitroglycerin paste, ½" – 2" to the anterior chest wall**
    - Use **Nitroglycerin** carefully if evidence of a right ventricular infarct
    - In the presence of a right ventricular infarct, a fluid bolus of 250ml Normal Saline may be appropriate prior to the administration of **Nitroglycerin**.

Patients who have ingested Viagra or Levitra within the last 24 hours or Cialis within the last 48 hours should not receive nitrates in any form.

- If patient is not allergic and has not consumed aspirin in the past 6 hours
    - Administer 4 chewable baby Aspirin (total 324mg)
    - Patients on coumadin, plavix or aspirin daily will still benefit from aspirin during their cardiac event.
- If pain persists and systolic BP is greater than 100mmHg
    - Morphine Sulfate 1-5 mg IVP/IO. May repeat in 2 mg increments up to a total 10 mg. For additional pain management contact medical control.
- If hypotensive and lungs are clear
    - Refer to Hypotension protocol

If runs of Ventricular Tachycardia occur

- Amiodarone 150mg IV Piggyback over 10 minutes
- Isolated PVC's do not require treatment

For patients with severe nausea and vomiting

- Zofran 4mg slow IV

J. CHEST PAIN NON-CARDIAC

Procedure:

- Basic Medical Care
- Airway management

Define pain response using **OPQRST**

- **O**nset, **P**rovocation, **Q**uality, **R**adiation, **S**everity, **T**ime
- Cardiac monitor
- Treat dysrhythmias per procedure

Vascular Access Obtain and document a 12-lead EKG to aid in recognition of a cardiac event

If chest pain is still considered non-cardiac in origin

- Focused physical exam for chest injury
- Ascertain if movement, drinking fluids, eating, deep inspiration, or other changes pain
- Continually re-evaluate for cardiac or respiratory distress
- If patient develops shortness of breath go to respiratory distress protocol
- Administer oxygen if saturation is less than 94%

Click to view → Chest Pain Differential Diagnosis Chart

CONGESTIVE HEART FAILURE PULMONARY EDEMA

Procedure:

- Basic Medical Care
- Airway management
- Vascular Access
- Administer **Nitroglycerin** 0.4 mg sublingual
- Administer **Nitropaste** ½" – 2" on anterior chest
    - Remove if systolic B/P drops less than 100

Patients who have ingested Viagra (sildenafil) or other erectile dysfunction medications within 36 hours should not receive nitrates in any form

- Morphine Sulfate 1-5 mg IVP/IO
- May administer Albuterol 2.5 mg in 3 ml Normal Saline via nebulizer if wheezing
- Lasix 20-40 mg IVP over 2 minutes can be given if the following is conditions are present
    1. History of CHF and Lasix usage
    2. Findings consistent with fluid overload, which consist of JVD, crackles on auscultation and/or pedal edema.
    3. Lack of fever and hemoptysis.
        - If hypotensive
        - Refer to Shock Procedure
        - **Severe respiratory distress, CPAP** in addition to the above
        - If respiratory failure is imminent, be prepared to intubate and provide positive pressure ventilation.

MEDICAL CONTROL OPTIONS:

Repeat any of the above Standing Orders

ABDOMINAL PAIN

Procedure.

- Basic Medical Care
- Vascular Access
- Use a large bore IV

Special assessment considerations:

- Assess the patient closely for possible cardiac etiology, as many patients may present with abdominal pain during an acute M.I. This should include a 12 lead ECG if available. Pay close attention to diabetics and the elderly
- Assess for orthostatic blood pressure changes.

Life threatening problems that may present with abdominal pain include:

- Acute Myocardial Infarction (AMI)
- Perforated abdominal organs
- G.I. bleeding (ask about blood in stool or emesis)
- Diabetic Ketoacidosis (DKA)
- Ruptured Appendicitis
- Dissecting Abdominal Aortic Aneurysm
- Ectopic Pregnancy (ask about menstrual history)
- Certain toxic ingestions (including mushrooms and poisons)
- Abdominal pain emergencies are likely to lead to death through hypovolemic shock (either blood or fluid loss). This may also lead to electrolyte imbalances that can cause dysrhythmias.

If patient presents in Shock refer to Shock procedure.

- Patient should have nothing to eat or drink.
- Consider Toradol 30mg IVP for pain management
- If patient is pregnant, history of renal dysfunction, or concerns for internal bleeding withhold administration of Toradol

If patient presents with severe nausea and vomiting

- May administer Zofran 4mg iv or po.
- If symptoms continue at 10 min repeat 4mg iv or po x 1

OR

- May administer Phenergan 12.5 mg diluted in 10ml of Normal Saline slow IV/IO (if patient is 16 years or older)

Transport patient in position of comfort if not in shock

CARBON MONOXIDE INTOXICATION

Procedure

Basic Medical Care

Airway management

- Give 100% OXYGEN via NRBM irrespective of SaO2

Vascular Access

If Unconscious

- Altered Mental Status Procedure

Minimize patient motion

Transport to hyperbaric facility

- Hospital

Consider:

CPAP at 5 cm/H2O

Note: Remember that patients may not experience severe respiratory distress with this disorder. Use CPAP Prophylactic, for patients that have been exposed to carbon monoxide and show signs and symptoms of intoxication (headache, errythemia, slow capillary refill, shortness of breath)

K. DIABETIC EMERGENCIES

Procedure

- Basic Medical Care
- Airway management
- Assess Blood Glucose Level (BGL)
- If BGL is between 60-80 mg/dl and patient is verbally responsive
    - May administer oral glucose 1 tube.
- If BGL less than 60 mg/dl or patient is unresponsive:
    - Vascular Access
    - Administer Dextrose 50% 25 gm IVP.
        - Dose may be repeated x2 PRN.
    - Repeat Blood Glucose Level should be obtained 5 minutes after each Dextrose 50% bolus.
- If vascular access is not available;
    - Administer Glucagon 1mg IM. (Preferably in the anterolateral thigh)
- If suspected hyperglycemia (BGL greater than 400 mg/dl)

- Vascular Access
- Administer Normal Saline - fluid bolus (20ml/Kg) and then decrease rate to KVO.
- Monitor closely for fluid overload
- Recheck BGL intermittently

NOTE:

1. If diabetic patient with nausea, diaphoresis, pallor or unspecified pain consider cardiac in origin and refer to the Chest Pain/Cardiac protocol.
2. After treatment with Glucose/Glucagon, the paramedic should investigate the cause of the hypoglycemic episode. This might suggest an underlying medical problem and a need for transport.

3. Once the patient has returned to baseline mental status, is not on oral diabetic medications, and is deemed competent with no underlying medical problem, the patient refuse further treatment and/or transport (without Medical Control Physician contact). It is advised for patient to be left in the company of another competent adult. If patient admits to usage of oral diabetic medications (metformin/Glucophage, glyburide, glipizide, glimepiride/Amaryl, pioglitazone or rosiglitazone) and they still refuse transport call medical control to further attempt to change their decision.

L. DYSBARISM-DIVING ACCIDENTS

Procedure

Basic Medical Care
Airway management
Vascular Access

Obtain C-spine control if mechanism of injury suggests C-spine injury or if patient is unresponsive

Administer 100% **OXYGEN** by NRBM

- **Caution** should be taken with any positive pressure (BVM, intubation) as this may worsen a pneumothorax.

Transport in **left lateral** position

- Keep patient warm

Transport to the closest appropriate facility ED.

Monitor for possible/developing tension pneumothorax.

Medical Control Options:

- **Morphine Sulfate 1-5 mg IVP/IO**

M. GASTROINTESTINAL BLEEDING

Procedure:

Basic Medical Care

Airway management

- Monitor airway for emesis

Vascular Access

- 2 large bore IV's suggested

Transport expeditiously

Refer to shock protocol

If patient is vomiting blood, may place nasogastric tube for suction of stomach contents (see appropriate protocol)

If patient presents with severe nausea and vomiting:

- May administer Zofran 4mg iv or po,
- If symptoms continue at 10 min repeat 4mg iv or po x 1

OR

- May administer Phenergan 12.5 mg diluted in 10ml of Normal Saline slow IV/IO (if patient is 16 years or older)
- Monitor for hypotension

N. HEAT ILLNESS

Procedure

- Basic Medical Care
- Airway management
- Evacuate patient from heat environment
- Determine if patient suffers from fever, heat cramps, heat exhaustion, or heat stroke.

If fever:

- May sponge patient with room temperature water or Normal Saline
- **If heat cramps or heat exhaustion** (skin ambient temperature, diaphoretic):
    - Remove outer layers of clothing
    - May cool patient with water or Normal Saline
    - Vascular Access
    - Fluid bolus **Normal Saline** as needed (20ml/Kg)
- **If heat stroke** (skin hot and dry, elevated core temperature):
    - Remove outer layers of clothing
    - Cool patient with water, Normal Saline and/or cold packs to axilla and/or groin
    - Vascular Access
    - Fluid bolus **Normal Saline** as needed (20ml/Kg)
    - Monitor patient closely
    - Rapid Transport

O. HYPERTENSION

(**Hypertensive Crisis/Urgency)**

Definition: SBP > 180 mm Hg, DBP > 120 mm Hg

Procedure

Basic Medical Care

- Assess and document severity of hypertension
- Check BP every 5 minutes.

Airway management

- Vascular Access

Asymptomatic:

- Monitor for blood pressure and symptomatic changes

Mildly symptomatic: headache, dizziness, etc., or asymptomatic with diastolic BP > 120 mmHg:

- Administer **Nitroglycerin spray**/ tablet SL every 5 minutes
- Place 1" **Nitroglycerin** paste on chest
- Remove **Nitroglycerin** paste if systolic BP drops to 140-150 mmHg.

Severely symptomatic and /or hypertensive emergency (chest pain, dyspnea, pulmonary edema, mental status change, etc.) and patient's condition not improving with the above therapy:

- For a 70 Kg adult [bracketed dose is in mg/Kg ideal body weight] administer IV **Labetalol** as follows:
    - 15 mg [0.2 mg/Kg] IV push;
    - Re-check blood pressure, if goal not reached within 5 minutes…
    - 30 mg [0.4 mg/Kg] IV push;
    - Re-check blood pressure, if goal not reached within 5 minutes…
    - 60 mg [0.8 mg/Kg] IV push;
    - Re-check blood pressure, if goal not reached within 5 minutes…
    - 120 mg [1.6 mg/Kg] IV push;
    - Re-check blood pressure, if goal not reached within 5 minutes…
    - May repeat 120 mg [1.6 mg/Kg] dose 2 more times;
    - Observe closely for progression of symptoms. If noted, continue with protocol
    - Hypertension associated with cocaine or other drug use may be difficult to control, consider versed 1-2mg SIV. May repeat once.
    - In patients suspected of having a CVA/transient ischemic attack/reversible ischemic neurologic deficit, the blood pressure

should not be treated unless directed by medical control [i.e., use less drug and/or allow the BP to remain in the high end of Goal BP], as cerebral autoregulation may be impaired.

P. NAUSEA & VOMITING

Procedure

Basic Medical Care

Vascular Access

- Use a large bore IV

Special assessment considerations:

- Assess the patient closely for possible cardiac etiology, as many patients may present with sudden nausea and vomiting during an acute M.I. This should include a 12 lead ECG if available. Pay close attention to diabetics and the elderly
- Assess for orthostatic blood pressure changes.

Life threatening problems that may present with nausea and vomiting include:

- Acute Myocardial Infarction(AMI)
- G.I. bleeding (ask about blood in stool or emesis)
- Diabetic Ketoacidosis (DKA)
- Ruptured Appendicitis
- Certain toxic ingestions (including mushrooms and poisons)
- Nausea and vomiting can lead to death through hypovolemic shock (either blood or fluid loss) especially in infants and the elderly. This may also lead to electrolyte imbalances that can cause dysrhythmias.

If patient presents in Shock refer to Shock protocol.

- Patient should have nothing to eat or drink.

If patient presents with severe nausea and vomiting:

- May administer Zofran 4mg iv or po
- If symptoms continue at 10 min repeat 4mg iv or po x 1
- May administer Phenergan 12.5mg diluted in 10ml of Normal Saline slow IV/IO (if patient is 16 years or older)
- Monitor for hypotension
- Transport patient in position of comfort if not in shock

Q. OVERDOSE & POISON INGESTION

Procedure

- Basic Medical Care
- Airway management
- Determine agent, time and amount of ingestion, circumstances of the event, and retain for transport any pill bottles, containers, or other identifying material
    - Notify Poison Control department and to advise of your destination hospital
- Vascular Access
- For hypotension (systolic BP < 90 mmHg) not improved by fluid boluses, or when fluid boluses are contraindicated:
    - Dopamine infusion at 10-20 mcg/kg/min titrated to maintain systolic BP > 90 mm Hg
    - If wide QRS complex (≥0.10sec), hypotension, or any arrhythmias:
    - Sodium Bicarbonate 1 mEq/kg IV, Repeat Sodium Bicarbonate 1 mEq/kg IV in 5 to 10 minutes
        - If any of the following conditions occur, refer to the appropriate procedure:
        - Polymorphous Ventricular Tachycardia
        - Altered mental status
        - Seizures

- **If patient awake, alert**:
    - Transport patient
- **If patient with decreased level of consciousness**:
    - Perform blood glucose check
    - Refer to altered mental status procedure
- **Several ingestions may have antidotes or effective countermeasures. Consult with Medical Control if you have any questions and concerns.**

- Tricyclic Antidepressants:
    - Cardiotoxicity may manifest as tachycardia, wide QRS, or hypotension;
    - Alkalization may be accomplished with hyperventilation and/or administration of Sodium Bicarb 50-100mEq IVP, and an infusion of Sodium Bicarb 100 mEq in Normal Saline 1000 ml TRA 150 ml/hour.
- Cholinergic Poisoning (organophosphate or carbamate insecticides):
    - Toxicity to crew may result from inhalation or topical exposure. Any patient with dermal exposure MUST be adequately decontaminated prior to transport. Crew should wear protective clothing including masks, gloves, and eye protection;
    - Initiate Hazmat alert if indicated
    - Remove all patients clothing and contain run off toxic chemicals when flushing
    - Use supplemental O2
    - If symptoms severe (blurred vision, nausea, vomiting, diarrhea, salivation, lacrimation, bradycardia diaphoresis, wheezing, fasciculations, confusion, and seizures, etc):
        - Administer Atropine 2 mg IVP every 5 minutes titrate dosing by assessing improvement in respiratory/bronchial secretions.
        - For hypotension (systolic bp<90mmHg) not improving by fluid boluses or when contraindicated use Dopamine 10-20mcg/kg/min titrate to maintain sbp >90mmHg.
- **Acetaminophen:**
    - If patient has a known toxic acetaminophen level or ingestion of potential toxic dose (calculated greater than 140 mg/Kg or 7.5 gm), transport to receiving facility expeditiously
- **Digoxin (symptomatic):**
    - Administer **Magnesium Sulfate** 2 gm slow IVP.
- **Cyanide (symptomatic):**
    - Transport expeditiously

- Administer Cyanokit 5 grams IVP

- **Methanol, Ethylene Glycol**:
  - Transport expeditiously.
- Antipsychotics/Acute dystonic reaction: (common offenders: haloperidol, prolixin, thorazine, prochlorazine/compazine, promethazine/phenergan
  - Administer **Diphenhydramine** 50 mg IVP.
- Calcium Channel Blockers:(examples: amlodipine/norvasc, nifedipine/procardia/adalat, felodipine/pendil/renedil, verapamil/calan, isradipine/dynacirc/, diltiazem/cardizem, nicardipine/cardene)
  - Toxicity may manifest as bradycardia, hypotension, bronchospasm, and/or altered mental status
  - For those patients with cardiovascular toxicity, (defined by: sbp< 90mmHg altered mental status and bradycardia) administer the following:
    - Atropine 0.5mg IV repeat every 3 min as needed with a max of 3mg
  - If no response administer Calcium Chloride 10% solution 1gm IV slow (adults only, contraindicated with digoxin use), this can be repeated x1
  - If no response Glucagon 3mg IV x 1
  - If no response, or patient presenting with 2nd or 3rd degree heart blocks, begin transcutaneous pacing
- Beta Blockers:(examples: propanolol, atenolol/tenormin, metoprolol/lopressor, nadolol/corgard, timolol/blocadren, labetalol/trandate, esmolol/brevibloc)
  - Toxicity may manifest as bradycardia, hypotension, bronchospasm, and/or altered mental status;
    - For those patients with cardiovascular toxicity, defined by: sbp< 90mmHg, AMS, bradycardia, 2nd or 3rd degree heart blocks administer the following: Atropine 0.5mg IV repeat every 3 min as needed with a max of 3mg

- If no response administer Calcium Chloride 10% solution 1gm IV slow (adults only, contraindicated with digoxin use), this can be repeated x1
- If no response glucagon 3mg IV x 1
- If no response begin transcutaneous pacing

- Benzodiazepines:
  - Support airway and transport.
- Cocaine:
  - Toxicity may manifest as tachycardia, hypertension, agitation, and mental status changes;
  - Administer Versed 1-2 mg SIV. May repeat once.
- Carbon Monoxide
  - Remove patient from the contamination source
  - Supplemental 100% oxygen; document time started
  - For smoke inhalation patients consider cyanide poisoning
- Opiates:
  - Toxicity may manifest as altered mental status, pinpoint pupils, slow respirations, and hypotension;
  - Administer Narcan.
    - **ADULT** - 0.4 - 2mg IVP, IO, IM, SQ, or via ETT, repeat as necessary.
    - **PED**- 0.1 mg/Kg IVP,IO,IM every 2 minutes; titrate to respiratory increase or to a maximum dose of 2mg

See "Drug Overdose Chart" on next page for more information.

- **OPTION A**: Repeat any of the above Standing Orders
- **PTION B**: Administer Activated Charcoal 50-100 gm P.O. or NG tube
- **OPTION C**: **HAZMAT** Unit: **Cyanide Ingestion**
  - Open **amyl nitrite** pearl under the nose; encourage forceful inhalation.
  - Administer **Sodium Nitrite** 3% 5-10 ml slow IVP (contact MCA for Pediatric dosing).

- Administer **Sodium thiosulfate** 25% 50 ml slow IVP over 10-15 minutes (contact MCA for Pediatric dosing).

R. SNAKE BITE

Procedure:

- Basic Medical Care
- Airway management
- Vascular Access:
- Two IV's preferred.
- Immobilize area and minimize all movement
- Cardiac monitor
- Treat dysrhythmias per protocol
- Assess degree of envenomation, type of snake, and advise MCP
- Outline edematous, erythremic, ecchymotic area with a pen and note the time
- Follow hypotension/anaphylaxis protocol as needed

MEDICAL CONTROL OPTIONS:

- Morphine Sulfate 1 - 5 mg IVP/IO for pain

S. BURNS

Procedure

- Basic Medical Care
- Airway management
- Patients with known inhalation injury or with signs of potential airway burns (singed nasal hair, soot in the pharynx, etc.) in respiratory distress should be intubated with the largest endotracheal tube possible.
- Remove all clothing from patient and expose all burned areas
- Assess type, depth, and extent of burn
- If indicated cool burn for 1-2 minutes
- If burning agent still in contact with skin
- Remove gently after cooling with sterile water or Normal Saline.
- If burning agent is **chemical**:

- Brush away loose, dry agent and irrigate burned area with copious amounts (2 or more liters) of Normal Saline or sterile water.
- If an **explosion** is involved:
- Follow trauma procedure
- For **Radiation** Burn: decontamination is paramount.
- Utilize bunker gear for protection; remember time, distance, shielding and quantity relating to the exposure. Treat burns the same.
- In all cases avoid recontamination or cross contamination
- **If patient has > 5% body surface area (BSA) second degree or any third degree burn**:
- Vascular Access
- Avoid starting lines in burned areas if possible
- Run IVF at the rate using the following formula:

(%BSA) (Wt. in KG) = cc per hour IV fluids

Formula examples for small, medium and large person:

%BSA Wt in	**%BSA Wt in**	**%BSA Wt in**	**%BSA Wt in**	**%BSA Wt in**	**%BSA Wt in**	**%BSA Wt in**	**%BSA Wt in**	**%BSA Wt in**	**%BSA Wt in**	**%BSA Wt in**
10	50	125		10	100	250		10	150	375
25	50	313		25	100	625		25	150	938
50	50	625		50	100	1250		50	150	1875
75	50	938		75	100	1875		75	150	2813
100	50	1250		100	100	2500		100	150	3750

Do not delay transport to establish IV

- **Dress burns:**
- Transport patient in **dry** non-sterile sheets or bandages regardless of extent of burn
    - Document area involved on chart using "**Rule of Nines."**
    - Maintain temperature control.
        - Keep patient warm
        - Wrap in blankets as needed
        - DO NOT ALLOW PATIENT TO BECOME HYPOTHERMIC

- **For Pain relief:**
    - Administer Morphine Sulfate 1-5 mg IVP/IO if patient hemodynamically stable
    - Dose may be repeated every 5 minutes prn
- Transport to Shands @ UF (Burn Center):
    - Partial thickness burn involving > 20% BSA
    - Full thickness burn involving > 5% BSA
    - Burns of the hands, face, feet, or perineum
    - Burns associated with inhalation injuries
- Burns associated with multiple trauma
    - Electrical injuries

MEDICAL CONTROL OPTION:

- Repeat any of the above Standing Orders

SOP 2. HIGH ANGLE OPERATION - ROPE RESCUE

2.1 Purpose

This SOP addresses response to and operations during a rope, vertical, or high-angle rescue situation; may include information on equipment use and maintenance and establish guidelines for conducting high angle/rope rescues.

Because of the infinite number of potential sites and situations that could be encountered, this procedure will not define a specific evolution to use, but will give guidelines to follow for conducting safe and effective operations.

2.2. Scope

This SOP pertains to all FRF personnel. For a wide variety of reasons, victims become stranded in the various location sites like mountain, this needs FRF assist in getting these victims to safety. Sometimes it involves a simple walk-down and, at times, it involves a very long and complex technical high angle/rope rescue. This procedure will apply to all FRF personnel operating in a training or rescue incident.

2.2.1 Rope Rescue Definitions

It is imperative in any technical rope rescue situation to be aware of the following

- Rope Rescue

  Any rescue that requires rope and related equipment to safely gain access to and remove patients from hazardous geographic areas with limited access, high rise buildings, above or below grade structures, or areas requiring rope systems.

- Technical Rope Rescue

  Any rescue involving angles of 45 degrees and greater is considered a technical rescue and should require the response of the Rescue Team.

- Non-technical Rope Rescue

  In most cases first responders can conduct rescues involving angles of less than 45 degrees. The Rescue Team may be called out to assist if the IC deems it necessary.

2.3 TACTICAL CONSIDERATIONS

PHASE I: Arrive On-Scene, Take Command and Size-Up.

1. **First Arrival:**

The first arriving FRF officer should assume Command after arriving on the scene.

2. **Secure Responsible Party or Witness:**

Command should secure a witness as soon as possible after arriving on scene. This will help in identifying the problem and locating the victim.

3. **Locate the Victim:**

In most cases, Command will have to send a recon team to the area of the victim to determine the exact location of victim and nature of injuries. Command may wish to designate this as Recon Sector. Recon Sector should have EMS equipment to begin to administer the first aid to the victim.

4. **Assess the Need for Additional Resources:**

Recon Sector should provide Command with enough information, or recommend the need for additional resources. If additional resources are not needed after a call has been put in, Command can return those units to service.

5. **Assess the Hazards**

Command may wish to designate a Safety Sector to identify all potential hazards to rescuers. Safety Sector will be responsible for securing those hazards or making all members aware of those hazards.

6. **Decide on Rescue or Recovery**

Recon Sector should advise Command whether the operation will be conducted in the rescue or recovery mode. If the operation is to be conducted in the recovery mode, Command may wish to leave the victim and any related equipment in place for investigative purposes.

7. **Decide on an Action Plan**

With the recommendation from Treatment Sector, Command will have to decide on an action plan. Extrication Sector and Safety Sector shall be made aware of the specific action plan.

Deployment

1. **Rescue Team**

Involving Rope rescue, helicopter rappel, and any climb requiring technical skills and/or training. The team should include a paramedic when possible.

2. **Support requires**

One trained FRF personnel obtain any additional equipment or support items for the rescue team. This member could also be used in the Helicopter if victim and/or personnel was suspended below the helicopter after an extraction, depending on the location of the Landing Zone or Support.

3. **Liaison**

Will provide technical capability to Command, especially when operation involves other agencies. This function can usually be filled by the Special Operations Officer responding to the call.

PHASE II: Pre-Rescue Operations

1. **Make the General Area Safe.**

Incident Commander should begin to make the general area safe. This may include securing the area and not allowing civilian personnel into the area.

2. **Make the Rescue Area Safe.**

Incident Commander should make the immediate rescue area safe. This may include removing all civilian personnel and all non-essential rescue personnel from the area. If it is not possible to secure all the hazards in the immediate rescue area, all personnel operating in that area shall be made aware of those hazards.

3. **Pre-Rescue/Recovery.**

Depending on the action plan established, Incident Commander may want to establish an Extrication Sector. Extrication Sector will be responsible for gathering all equipment and personnel necessary to operate according to the action plan.

Extrication Sector will assign rescue personnel to conduct the rescue, and support personnel to support the rescuers, during the actual rescue phase. Extrication Sector should have an alternative action plan should the first-choice plan fail. This alternate plan should be communicated to all personnel operating in the rescue area.

PHASE III: Rescue Operations

After pre-rescue operations are complete, Extrication Sector shall put forth the action plan removal of the victim(s). Rescue operations should be conducted with from low risk to high risk. Rescue should be conducted with the least amount of risk to rescuers necessary to rescue the victim.

Low risk operations are not always possible but should be considered first. If the rescue of the victim(s) is only possible by means of a high risk operation, Extrication Sector shall communicate with Command the risk/benefit of the operation.

Phase IV Termination

Prepare for Termination

1. Personnel Accountability.
2. Equipment accountability. If there has been a fatality, Extrication Sector may consider leaving equipment in place for investigative purposes.
3. Re-stock vehicles.
4. Consider debriefing
5. Secure the scene. Return to service.

Additional Considerations

1. HEAT. Consider rotation of crews.
2. COLD. Consider effects of hypothermia on victim and rescuers.
3. RAIN/SNOW. Consider the effects of rain on the hazard profile.
4. TIME OF DAY. Is there sufficient lighting for operations extending into the night.

Rehabilitation

See Current SOP

SOP 3. ROPE RESCUE EQUIPMENT GUIDELINES

The purpose of this procedure is to establish a guideline for the use, care, maintenance, and storage of rope and related rope rescue equipment.

3.1 ROPE

Uses

Rappel line, lowering line, safety belay, litter tag line, or in mechanical advantage pulley systems. It is not intended to be used as a tow rope, utility line, etc. This is to be considered a life safety line only. The rescuer's life as well as the victim's may depend on
it.

Construction

Nylon, low-stretch kernmantle

1. Has an inner core and an outer sheath
2. Outer sheath protects core
3. 75%-85% of the ropes strength comes from the core, depending on manufacturer

Specifications

1. Diameter: 1/2" (12.7mm)
2. Strength: 9,000 pounds (loses approximately 15% when wet)
3. Lengths: 100' for most companies; up to 600' lengths

Maintenance

Inspect, visually after each use, for damage to sheath, dirt or mildew, and feel for soft spots in rope core, by "running" or pulling the rope between thumb and index finger. Wash when dirty.

Care

1. Wash with mild no chlorine-based detergent and water. Hang loosely and allow to air dry out of direct sunlight.
2. Once rope is dry, it is stuffed, not coiled, in rope bag and stored in a dry, dust- free place, where not exposed to chemical (petroleum, alkalies) and direct sunlight.

Cautions

1. NEVER walk or stand on the rope.
2. Don't drop rope from great heights when it can be carried down.
3. Don't drag rope across ground or apparatus bays.
4. Pad all edges.
5. Avoid nylon passing on nylon; i.e., rope passing over itself, another rope or webbing.

6. Keep all rope and webbing material out of petroleum and alkaline products, and if forced to use in applications where contamination will occur (around wheels, axles, etc.), retire after use

3.2. WEBBING

Uses. Anchor slings, gear slings, harness, and lashing.

Construction. Nylon, spiral weave, tubular.

Maintenance. Same as rope.

Care. Same as rope.

Cautions. Same as rope.

3.3 ACCESSORY CORD

Uses

Loops of 8 mm accessory cord (AC) can be attached to a host rope by a prusik hitch to form attachment points for pulleys. Long loops of 6 mm AC can be tied to allow their use as "soft" ascenders to climb a host rope.

Construction

Nylon, low stretch, kernmantle. Specifications. Rope diameter may vary from 6 mm to 9 mm, depending on application.

Maintenance. Same as rope.

Care. Same as rope.

Cautions. Same as rope.

3.4 CARABINERS

Uses

To link various pieces of gear together, or to add friction to a system.

Construction. Locking, steel, pin type, not lock sleeve dependent. Locking, aluminum, pin type, not lock sleeve dependent.

Cautions.

1. Keep clean.
2. Do not drop or throw.

3. Load only in the long axis, no side loading.
4. Do not forget to lock the gate.
5. Inspect for cracks, worn spots, and smooth operation.

3.5 PULLEYS

Uses

1. Reduce friction.
2. Change direction.
3. To gain mechanical advantage.

Construction

Sealed ball bearing, adonized aluminum sides.

Cautions

1. Keep clean.
2. Don't drop or throw.
3. Inspect for smooth operation, elongated holes.

3.6 GENERAL CAUTIONS

1. Make sure all knots are tied and dressed correctly.
2. Maintain at least 15:1 safety margin when not belayed.
3. Belay loads when safety margin is less than 15:1
4. Rescuers shall not operate with less than a 10:1 safety margin.
5. Rescuers shall not approach an edge without being tied in and communicating with rescuers below.
6. Rescuers shall place victims in harness during rope borne rescues.
7. Rescuers shall wear appropriate clothing:

A. For helicopter borne operations

1. Fire resistive jumpsuit
2. Seat and chest harness
3. Flight helmet
4. Eye protection
5. Approved footwear

6. Self-rescue gear
7. Safe cutting device

B. for steep or high angle rescue

1. Seat and chest harness
2. Helmet
3. Approved hiking shoes or boots
4. Self-rescue gear
5. Safe cutting device
6. Eye protection
7. Gloves

SOP 4. MARITIME/WATER SEARCH AND RESCUE

4.1 SCOPE

This procedure establishes a standard structure and guideline for all Fire and rescue personnel operating at incidents involving water rescue operations. The procedure outlines responsibilities for first-responders, Technical Rescue Team (TRT) units, command officers, and other personnel responding to such incidents. All other fire department procedures shall apply to maritime rescue operations where applicable.

4.2 PURPOSE

The purpose of this procedure is to establish guidelines for the response of Fire and Rescue personnel and equipment to water rescue incidents. Maritime/Water search and rescue operations present a significant danger to search and rescue personnel, the safe and effective management of these operations require special considerations. This procedure identifies some of the critical issues, which must be included in managing these incidents.

4.3 TACTICAL CONSIDERATIONS

Due to the inherent dangers associated with these operations, the Fire and Rescue Force shall use a risk management approach to all water rescue operations. Operational activities shall be continuously re-assessed throughout the incident.

A phased approach to water rescue operations include;-

- Arrival,
- Pre-rescue operations,
- Rescue operations, and
- Termination,

Should be used safely and effectively mitigate these high-risk/low-frequency events.

The safety of rescue personnel is a high priority during all phases of the incident. Tactical considerations include:

a. Scene safety
b. Locate incident, establish command
c. Conduct size up
d. Search and rescue operations
e. Provide logistical support for search and rescue operations
f. Rapid transport of survivors/victims to medical care as required
g. Scene security

4.3.1 PHASE I: Arrival.

I. Establish Command

A. First arriving FRF responder's officer shall assume *Command,* begin an immediate size-up of the situation, and establish scene safety guidelines.

B. First arriving TRT unit that is staffed with a TRT officer should be assigned *Rescue Sector*. The TRT officer assigned as Rescue Sector should remain with his crew. Rescue Sector responsibilities include:

- Assuming technical rescue operations control.
- Identifying hazards and critical factors.
- Developing a rescue plan and back-up plan.
- Communicating with and directing TRT resources assigned to Rescue Sector.
- Informing Command of conditions, actions, and needs during all phases of the rescue operation.

C. Designate a ***Safety Officer***. Considerations for Safety Officer include:

- A certified incident safety officer.
- A Special Operations qualified officer.
- Any experienced TRT officer assigned to the incident.

D. Following the transfer of Command to a Command Officer, a *Technical Advisor* should be assigned to join the Command Team at their location to assist in managing personnel and resources engaged in the technical aspects of the incident. The Technical Advisor is responsible for ensuring that the rescue plan developed by Rescue Sector and communicated to Command is a sound plan in terms of the safety and welfare of both victim(s) and rescuers. Considerations for the Technical Advisor include:

- A certified incident safety officer.
- A Special Operations qualified officer.
- Any experienced TRT officer assigned to the incident.

E. The Technical Advisor position within the Command Team should be filled prior to the implementation of any rescue plan proposed by Rescue Sector.

F. Transition to unified command for multi-jurisdictional and/or multi-agency incidents.

II. Size-Up

A. Secure a witness to assist in gathering information to determine exactly what happened and the location of any victim(s). If no witnesses are present, Command may have to look for clues on the scene to determine what happened.

B. Assess the immediate and potential hazards to the rescuers.

C. Isolate immediate hazard area, secure the scene, and deny entry for all non-rescue personnel.

D. Assess on-scene capabilities and determine the need for additional resources.

4.3.2 PHASE II: Pre-Rescue Operations

It must be determined if this will be a RESCUE operation or a RECOVERY operation based on the survivability profile of the victim(s) which include factors such as the location and condition of the victim(s), and elapsed time since the accident occurred.

I. Make The General Area Safe

A. Establish a hazard zone perimeter.

B. Keep all non-essential rescue personnel out of the hazard zone.

C. Remove all non-essential civilian personnel at least 150 feet away from the hazard zone.

D. Monitor and maintain scene safety during the operation.

II. Make the Rescue Area Safe

All personnel operating at or near the water shall be in proper approved personal protective equipment (PPE) which will include at a minimum: personal flotation device (PFD), approved water rescue helmet, and approved footwear.

A. Identify hazards that are present which include but are not limited to:

- The volume of water.
- The velocity of the water.
- Debris in the water.
- Hydraulics.
- Depth of the water.
- Changes to water level – rising/falling.
- Water temperature.
- Assign personnel upstream.
- Rescue personnel shall be assigned upstream to advise Rescue Sector of any upstream hazards that may affect the rescue operation.

B. Assign personnel downstream.

C. Rescue personnel shall be assigned downstream with throw bags to capture rescue personnel or victim(s) that may be washed downstream.

D. Assemble all necessary personnel, equipment, and patient packaging equipment that will be required for the rescue operation.

E. Monitor and maintain safety in the rescue during the operation.

3.3.3 PHASE III: Rescue Operations

Technical rescue operations shall be conducted under the direction of Rescue Sector by trained Technical Rescue Technicians.

I. Search and Rescue Sector

Search and Rescue Sector responsibilities shall include the following:

- Ensure that all personnel operating in Search and Rescue Sector are accounted for and wearing appropriate PPE.
- Develop a rescue plan and a back-up plan.
- Ensure the plan and back-up plan, which include emergency procedures, are communicated to all personnel operating on the incident.
- Monitor the operation for the safety of personnel.

II. The Rescue Plan

Rescue operations should be conducted with as little risk to the rescuers as necessary to affect the rescue. Low-risk operations may not always be possible but should be considered first. The order of rescue from low-risk to high-risk are:

A. **TALK** – if water is calm or slow moving, try to talk the victim into self-rescue if possible.

B. **REACH** – extend an arm, pike pole, rescue hook, or any other such object to reach the victim and pull from the water.

C. **THROW** – attempt to throw the victim(s) a throw-bag rescue line or some other type of approved safety flotation device and "pendulum-belay" or "haul" the victim(s) to the bank.

D. **ROW** - If it is determined that a boat-based operation shall be utilized, Rescue Sector shall assign a team on the opposite bank to assist in establishing an anchor for an approved rope system.

E. **GO** - If it is not possible to row to the victim, Rescue Sector should consider putting a rescuer or rescuers in the water to reach the victim. This is a very high risk operation and shall be conducted exclusively by trained TRT personnel. Before entering the water, rescue personnel shall be briefed on the plan, the back-up plan, and emergency procedures. Rescue personnel shall never be attached to a life line without the benefit of a quick-release mechanism approved for water rescue. Rescue personnel shall never do a "breath-hold" surface dive in an attempt to locate a victim beneath the surface of the water.

F. **HELO** - Helicopter operations are considered high-risk and shall be decided upon through consultation with Rescue Sector, Safety, Command, and the Technical Advisor. Before considering the use of a helicopter for rescue operations, Command must determine if a rescue-qualified pilot is available for the rescue operation. If so, the **Pilot-In-Command (PIC)** will have the final say on *if* and *how* the helicopter will be used in the rescue operation.

III. Assess the Victim

When the rescuers reach the victim, a primary survey shall be completed. If the victim is conscious, rescuers should determine if the victim can assist in the rescue. If the victim is unconscious, the rescue must be completed as quickly as possible.

IV. Treatment

- Initiate C-spine precautions as soon as possible.
- Conduct a secondary survey and correct any life-threatening conditions.
- Provide for **Advanced Life Support** level treatment and transportation to a hospital as indicated.

V. Emergency and MAYDAY Situations

A. If personnel fall into the water by accident, or if personnel need assistance, they will signal audibly, and then activate their strobe light.
B. If the personnel are equipped with a radio, they will transmit a mayday.
C. After the radio transmission, the personnel needing assistance will deliver repeatedly a series of four short blasts on his/her whistle signifying that they are in need of assistance or have an emergency
D. The personnel needing assistance will activate the strobe light attached for a visual indicator of who is in need of assistance.
E. Upon receipt of a Mayday radio transmission, or upon hearing the whistle signal, the IC will activate the Water Safety Team.
F. The Water Safety Team Officer will communicate with the IC and take appropriate actions.
G. All personnel on the scene will switch operations to a different channel, leaving the member needing assistance, the Water Safety Team, and the IC on the original operations channel.
H. If the Water Safety Team is activated, the IC must replace them with another standby Water Safety Team, or cease all other operations until the Mayday is mitigated, and the Water Safety Team is restaged.
I. The evacuation signal for the rescue site will follow existing Fire and Rescue procedures for evacuating structures at structure fires. Signaling should be done over radios, with whistles, and with vehicle sirens.

4.3.3 PHASE IV: Termination

A. Ensure personnel accountability.
B. Consider decontamination of victim(s) and rescuer(s).
C. Recover all tools and equipment used in the rescue/recovery. In cases of a fatality, consider leaving everything in place until the

investigative process has been completed.

D. Consider a Post Incident Critique (may be more appropriate at a later date).
E. Return to service after returning all equipment to apparatus.

4.3.4 ADDITIONAL CONSIDERATIONS

I. Command Structure

A. The first arriving team shall assume *Command* of the incident. This team shall remain in Command team, Command is transferred to improve the quality of the Command organization. A Command Team shall be assembled to include, at a minimum, a Rescue officer and a Technical Advisor. Transition to unified command for multi-jurisdictional and/or multi-agency incidents.

B. Considerations for the *Technical Advisor* include:

- Special operations certification or qualifications.
- Incident safety officer certification or qualifications.
- Any experienced TRT officer assigned to the incident.

C. The first arriving TRT unit that is staffed with a TRT officer should be assigned *Rescue Sector***.** Rescue teams, Upstream, Downstream, and any other such functional team operating near the water shall be under the direction of Rescue Sector. Rescue Sector shall communicate directly with TRT units assigned to the various functions within Rescue Sector and shall keep Command informed during all phases of the rescue operation.

D. Considerations for *Safety Officer* include:

- Incident safety officer certification or qualifications.
- A special operations qualified officer.
- Any experienced TRT officer assigned to the incident.

E. *Treatment Sector* should be assigned to any ALS Paramedic unit assigned to the incident.

II. Other Considerations

A. Consider the effects of inclement weather and water conditions on the hazard profile, the victim(s), and the rescuers, with particular attention to the effects of hypothermia.

B. Monitor and record the time that rescue crews spend on the water.

C. Ensure that all personnel remain hydrated.

D. Water rescue incidents attract the news media; consider assigning a Public Information Officer (P.I.O.)

SOP 5. VEHICLE ACCIDENTS/EXTRICATION

5.1 Scope:

This SOP provides fire and rescue personnel with operational procedure to extricate victims from vehicles and to minimize the risk to rescue personnel working at the scene of an emergency. This SOP does not address the medical treatment of patients. The extent to which emergency medical treatment (see SOP Paramedic services) is given with limited to the force personnel credentials and available personal protective equipment.

5.2 Purpose

The purpose to establish a set of procedures when responding and safe handling of motor vehicle accidents and vehicle fires.

5.3 Procedures

5.3.1 Vehicle Extrication

1. Duties of Rescue team in order of priority
    - Patient Care and Stabilization
    - Scene/Vehicle Stabilization
    - Vehicle Extrication, Forcible Entry
    - Scene Lighting
    - Assisting EMS
    - Acting as Landing Zone (LZ) for Life Flight

2. Battery Terminals should be cut due the risk of airbags deploying.
3. Ensure adequate vehicle stabilization to protect firefighters
4. Assist EMS as directed**.**

5.3.2 Scene Size Up:

Upon arriving at the scene of a vehicle accident with an entrapment, the officer or

Incident Commander shall determine the best placement for the responding vehicles to ensure the protection and safety of all personnel operating on the scene. The officer shall size up the situation and either establish or pass command to the next arriving unit. The Officer/Incident Commander should evaluate the following criteria:

a. The number of vehicles involved.
b. Number of persons injured or trapped.
c. Type of vehicles involved such as car, truck, hybrid, or alternative fuel vehicle.
d. Actual fire present.
e. Leaking fuel causing a potential fire or explosion hazard.
f. Stability of vehicles involved.
g. Presence of vehicle safety systems such as air bags and whether they have deployed.
h. Involvement of electrical power lines or other electrocution hazards;
i. Involvement of any actual or suspected hazardous materials.

5.3.3 Vehicle Fires

1. IC will direct scene and coordinate attack.
2. Do not focus so closely on the fire attack that you forget about other hazards.
3. Apparatus should be placed upwind and uphill of the incident if possible. This is to afford protection from hazardous liquids, vapours and reduces smoke in the work area.
4. Consideration must be given to using the apparatus as a barrier, to shield the incident scene from traffic hazards. Warning lights should be left operating, in conjunction with the use of traffic cones.

5. Additional consideration should be given to positioning the apparatus at an angle to better allow the removal of any hose from the pre-connect positions.
6. If the water carried on the responding apparatus will not be sufficient, early considerations must be given to additional water supply sources. A supply line off other engines/tankers may be required.
7. A minimum of one 1 ¾ in hose line to combat the fire.
8. Full PPE with SCBA will be worn to all vehicle fires
9. A working fire involving the interior of the vehicle passenger compartment will damage the vehicle beyond repair. As such, the attack plan should consider the vehicle as a "write-off" and a safe and appropriate approach and fire attack must be implemented.
10. Where patients are trapped in the vehicle, first foam should be applied to protect the patients and permit rescue.
11. When rescue is not a factor, first foam should be applied for several seconds to extinguish fire or cool down the area around any fuel tanks or fuel systems. This is especially important if the fuel tanks are for Liquefied Petroleum Gas (LPG) or Liquid Natural Gas (LNG).
12. At least one personnel of the attack team must have forcible entry tools in their possession to provide prompt and safe entry into the vehicle

5.3.4 Safety

- Remember the safety of all firefighters and rescuer is our primary concern.
- It is the responsibility of the IC to appoint a safety officer at the scene; otherwise IC oversees the safety of our personnel.
- All personnel are also responsible for their own safety. You are operating in an inherently hazardous environment. Hazards may affect you at any time. It is critical that you remain extremely alert.
- We should wear full PPE and SCBA for all vehicle fires. PPE for extrication with or without SCBA depending on the IC's directives.

- All personnel involved in extrication should have their helmets on, safety shields down or wearing safety glasses. Helmets can only be removed with the authority of the safety officer.
- Fire and rescue vehicles should be staged to ensure the safety of our personnel when conducting operations.
- The applicable Police should be used to ensure the safety of our personnel to direct traffic. If Police is unavailable, IC should appoint personnel to be responsible to handle traffic.
    - Any Police Personnel performing traffic control will be required to wear reflective vest or high visibility materials, anytime day or night. This includes turnout gear, wildland gear, or reflective vests.
    - Police Personnel performing traffic control should always stay alert and aware of all surrounding areas. Any approaching vehicles should be watched carefully, and every attempt should be made to make eye contact with the driver. Try to never turn your back to oncoming traffic.
    - Traffic control personnel will be relieved and rehabbed as all other personnel on scene

      This is extremely important in demanding weather conditions such as high heat.
- Call for Mutual Aid as necessary.

5.3.5. Hazards and Safety Considerations

1. **LPG and LNG are becoming more common place as fuel in vehicles**.

   Pressure relief devices can create a lengthy “blow torch” effect, or should be pressure relief devises fail, a Boiling Liquid Expanding Vapour Explosion (BLEVE) may occur. Vehicles may not be marked to identify this fuel hazard. If there is direct flame impingement on a visible fuel tank, regardless of its contents, priority action must be taken to cool the tank and control the fire.
2. **If vapours escaping from a fuel storage tank have ignited**, allow the fuel vapour to burn while protecting exposures and

cooling the tank. Shutting off the valve at the fuel storage tank may control LPG and LNG fuel vapour.

3. **Energy Absorbing Bumpers**

   These bumpers contain gas and fluid filled cylinders that, when heated during a fire, develop high internal pressures which may result in the sudden release of the bumper assembly. This may cause serious injury to anyone in its path, with bumpers traveling up to 25 feet under such circumstances. Fire suppression and rescue operations should be positioned to account for this risk, approaching the vehicle from the side or at 45-degree angles.

4. **Air Bags and Seat Pretensioners**

   The effect of fire and heat on these safety devises is unpredictable. Care should always be taken to avoid placing personnel near or in front of these devices at vehicle fires or motor vehicle accidents.

5. **Batteries**

   Batteries present an explosion hazard due to the presence of hydrogen vapours and strong acids. When the situation has stabilized, disconnect the battery cables (ground cable first).

6. **Combustible Metals**

   Some vehicles have various parts made of combustible metals, such as engine blocks, heads, wheels, etc. When these metals are burning, initial attempts to extinguish them with foam will usually add to the intensity of the fire. Large quantities of plain water, however, will cool the metal below its ignition temperature and after some intensification, should extinguish the fire

7. **Trunk/Rear Hatch/Engine Hoods**

   Danger exists from compressed gas cylinders used to hold these parts open. When gas cylinders are exposed to heat, failure or rupture of these devises should be anticipated. Excessive pressure below the failure point in cylinders may cause excessive force, causing a trunk, hatch or hood to open with explosive force

when the latch mechanism is released. Fires involving the trunk/cargo area should be approached with extreme caution. Contents may include toxic, flammable or other hazardous materials. Tactics should be used in anticipation of a "worst-case" scenario.

8. **Fuel Tanks**

   Fuel tanks may be constructed of sheet metal or plastic. A rupture or burn-through may occur causing a rapid flash fire. Do not remove the gas cap, as the tank may be pressurized. Do not direct a hose stream into the tank, as this may cause pressurization of the tank, with a potential for burning fuel spewing from the tank fill opening.

9. **Interior**

   Well-sealed interiors of modern vehicles present the potential for backdraft. Use caution when opening doors or breaking windows. Appropriate approach, ventilation and safety concerns must be considered. Always have a charged hand line ready before making entry.

10. **Vehicle Stability**

    Tires and split rims exposed to fire may explode, causing the vehicle to drop suddenly. Expect exploding rim parts or tire debris to be expelled outward from the sides. Approach from the front or rear at 45-degree angles for maximum protection from potential flying debris.

    Some larger vehicles, such as buses, may employ an air suspension system. When these systems are exposed to heat or flame, they may fail, causing the vehicle to suddenly drop several inches.

SOP 6. AIRCRAFT CRASH

6.1 SCOPE

A. The Fire and Rescue Force shall follow these guidelines and procedure in working with airport personnel in the handling of emergency incidents of aircraft crash.

B. The Fire and Rescue Force shall follow these guidelines to insure the safety of personnel while operating on the scene.

6.2 PURPOSE

A. To establish standard and procedure for the handling of emergency incidents in aircraft crash

B. To establish an Incident Command Procedure for emergency incidents at the aircraft crash.

6.3 PROCEDURE

A. UPON ARRIVAL

a. Report on conditions.

b. Size up conditions.

c. Request additional assistance if needed.

d. Establish an operational perimeter.

e. Establish a command post.

6.4 SAFETY

1. Full protective clothing and breathing apparatus.
2. Use proper procedures for crossing taxiways and active runways.
3. Beware of the propellers, rotors and jet exhaust.
4. Do not approach military aircraft from the front. They may be loaded with ordinance.
5. Follow the directions of the CFR (Crash-Fire-Rescue) Crew if on scene.
6. Beware of fuel spills and vapor clouds.
7. Be prepared for possible explosions.
8. Keep personnel away from aircraft if not participating with the incident.

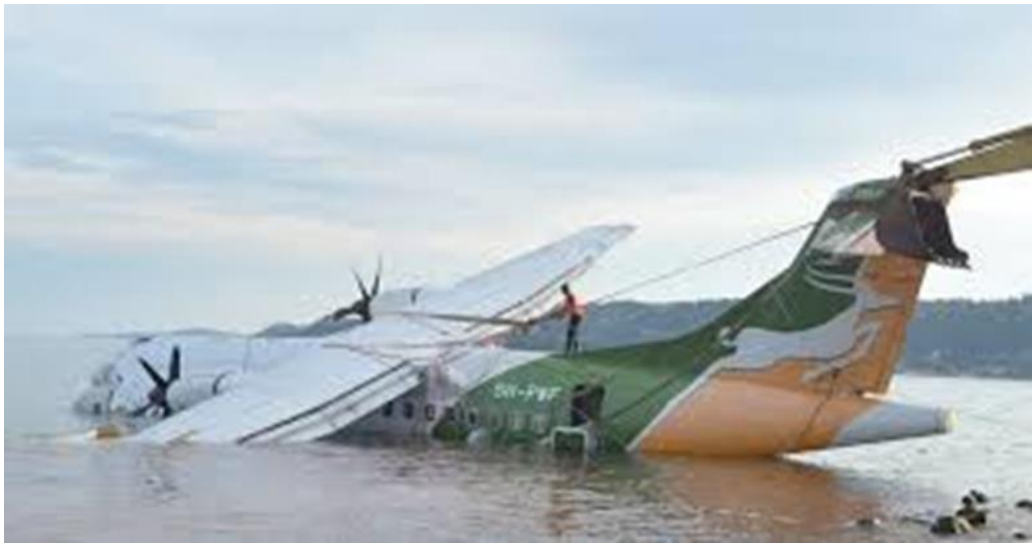
6.5 OPERATIONS

1. Dispatch shall notify the proper support agencies in the event of an alarm for an in-flight emergency.
2. If an aircraft crashes on the airport property or off the exact location and best approach route should be relayed to responding apparatus and agencies.
3. If a command post is established the highest ranking fire officer shall assume the Incident Commanders position.
4. If there is no fire:
    a. Use foam on spilled fuel and aircraft to minimize ignition potential.
    b. If foam is not available, flush spilled fuel away from cabin or cockpit and keep fog streams in operation while effecting rescue of occupants. (Remember, keep in mind where the spilled fuel may be running.)
    c. Take precautions against possible fuel ignition.
    d. Set up a safety perimeter around the incident site.
    e. Try and determine if there are any hazardous materials on board the aircraft.
5. If there is a fire:
    a. Approach from windward, if possible.

b. Use foam if available.
c. If foam is not available, use fog streams to drive away fire from occupants and to cover firefighters on nozzles and those attempting rescue.
d. Protect exposures.
e. Set up a safety perimeter around the incident site.
f. Try and determine if there are any hazardous materials on board the aircraft.

6.6 AIRPORT ALERT LEVELS:

- **Alert 1** – Indicates that an aircraft is approaching the airport in minor difficulty. Fire/Rescue units stand by on the station ramp.
- **Alert 2** – Indicates that an aircraft is approaching the airport in major difficulty. Fire/Rescue units deploy to predetermined locations.
- **Alert 3** – Indicates that an aircraft accident/incident has occurred or is imminent on or near the airport. This definition also includes aircraft fires not involving a crash, aircraft off the runway, etc



SOP 7. SEARCH, RESCUE AND EVACUATION IN A DISASTER INCIDENT GENERALITIES

7.1 INTRODUCTION

Tanzania, like other worldwide countries, faces natural and manmade disasters which are causing deaths, injuries, and other different losses to be take care off. The disaster risks are increasing due to climate change and geological based hazards. This is amplified with the increasing of the country's population which is expected to occur in urban areas with some critical infrastructures exposed to such hazards.

Operational response measures must be put in place to mitigate or prevent the effects of those hazards to the communities and their properties. Once the confirmation of any disaster is issued; Search, rescue and evacuation are the most immediate critical operations that are usually performed by members of affected communities, local volunteers, voluntary organizations and the emergency agencies in the direct aftermath of the disaster/emergency incident.

Globally, Search, Rescue and Evacuation (SRE) is a procedure carried out at primary stages, initially to find out persons with injuries in lightly damaged buildings, or even without any injuries and needing assistance, and to help them exit. If the condition worsens and the local groups are not able to control the situation, then the specialist groups within emergency agencies have to be called in for professional help.

Primarily, Search and Rescue Operations are undertaken to save the maximum possible number of victims who are trapped in an area affected by a disaster. The basic aim of all such operations is to ensure the survival of the maximum possible number of affected people. A plan is worked out with the help of local people through surveys and then appropriate steps are taken by the various teams involved to carry out the operations. Besides physical rescue, the aim is also a systematic and organized approach in a post -disaster situation riddled with chaos and confusion**.**

Search and rescue generally involve Fire and rescue Force with other responders' agencies in collaborations with the local people who are well versed with the local terrain and can be instrumental in searching and accessing the trapped victims. Heavy machines such as cranes and earthmovers are used to remove heavy rubble; and special equipment to delicately remove fallen structural elements

and reach out inside heaps of rubble with visual or sound equipment for locating survivors.

In case of floods and cyclones, boats and helicopters are used to carry out the search and rescue operations by forming teams and carrying out SAR operations in the entire area systematically, each team covering its assigned sectors. SAR teams may even rely on sniffer dogs that are specially trained to smell out human beings trapped under the rubble. After the search, rescue and evacuation, some important steps are required to be taken in order to provide relief to the evacuees. SAR, it is applied to catastrophic and major accidents that can occurs, even if infrequently but affect a lot the communities.

7.2 Scope

Search, rescue and Evacuation are a technical activity rendered by Fire and rescue trained personnel, who rescue and attend to the casualties under adverse conditions, where life is under threat. Search and rescue are organized by fire and rescue force in close cooperation with the community and in a team approach. The search and rescue activities are undertaken in two ways;

1. Community Local Rescuers: With adequate safety measures, rescue immediately after any natural calamities such as flood, earthquake and fire in a community.
2. Outside Community Resources: Circumstances where the situation is grave and the local rescuers do not have required efficiency and equipment, then specialist assistance from outside the community is required.

The Fire and Rescue Force efficiency level to be maintained thorough practice and demonstrations / mock-drills during the non-disaster period. The rescue team should undergo standard training from time to time.

7.3 Purpose

a) To rescue the survivors trapped under the debris, from the damaged buildings or from a storm surge, flood, earthquake, fire etc
b) To provide First Aid services to the trapped survivors and to dispatch them for medical care.
c) To ensure affected people are taken in a safe environment from ongoing threat and ensure return once the situation is stable and safe

d) To take immediate necessary actions, as necessary, for temporary support and protection to endangered collapsed buildings to structures.
e) To hand-over, recover and dispose-off the bodies of the deceased.
f) To train, demonstrate and raise awareness on how to use the local materials for self-rescue amongst the community people

7.4 DUTIES OF THE RESCUER

1. **ASSESSMENT:**

Proper assessment saves time and improves better performance. Collect information on the extent of; the damage, approach to the damaged area, particulars of the damage, and if any further damage is likely to occur. The assessment can be done in two methods.

2**. INFORMATION**: Information provided by the local leaders or the group leader from the scene is important.

3. **OBSERVATION**: Follow the 3 key principles during the survey or assessment

a. **LOOK**: See physically the incidents and make a thorough visual inspection.

b. **LISTEN**: Listen to all sources of information from the community, from the people, Government records etc. Assess the community data regarding people in danger.

c. **FEEL**: Feel convinced regarding the facts, the gravity of the dangers and your own capacity to respond.

7.5 SRE plan

SRE personnel function needs coordination and planning amongst the members for an optimum response operation. After the assessment, the Fire and Rescue team would be in a position to adequately plan the Rescue Operation based on the following details and specifications;

a) Manpower
b) Equipment
c) Methods

6.6 RESCUE STAGES

Surface Causality (Emergency Rescue)

To locate the surface casualty, the rescue is conducted from the outer-edges of the damaged area and rescued shall be provided First Aid services. In case the rescued is more severely injured, after providing the First Aid services, dispatch as quickly as possible to the nearest hospital, health center for medical care.

Search in Slightly Damaged Buildings (Immediate Rescue)

The rescue team should move towards the slightly damaged buildings after responding to the surface casualty. It might happen that some persons trapped can be contacted but cannot be reached easily. In such events, before entering to the damaged building or house, a careful analysis of the methods best suited to safely rescue the trapped is to be made. The team leader has to take proper decisions without risking the lives of the rescuers or the injured. Safety at all points is to be ensured. The same procedures shall be followed in the case of the trapped people or cyclone/flood - marooned people.

Search of Possible Survival Points (Specialized Rescue)

Any chances of a person being trapped or injured are to be searched at all possible places and all options. The rescue team should try with all means to rescue with the appropriate method. Consider safety as top priority.

Selected Debris Clearance (Specialized Rescue)

The rescue team should search until all the persons are accounted for and identities are ascertained

General Debris Clearance (Specialized Rescue)

Clear up the debris and reach to the trapped persons, when all possible ways of contacting the trapped persons has failed. Specialized Rescue Teams should preferably carry out the last three stages

7.7 SPECIFITIES

7.7.1 Area to be searched

This involves the division of the designated area into manageable sections. Depending upon the size of the damaged area and the search resources available, an area may be sectored by city block, or other easily definable criteria

(i.e., using 100, 1000, or 10000-meter square). The available search resources will be divided and apportioned to each sector for search operations.

7.7.2 Priorities

The search area is evaluated for priorities in terms of the type of occupancies affected, amount of damage, pre-evacuation, etc. Areas with the highest likelihood of survivability (in terms of type of construction) and the number of potential victims (in terms of the type of occupancy of the building) will receive attention first. Occupancies such as schools, hospitals, nursing homes, high-rise and multi-residential buildings, office buildings, etc., would be high priorities.

7.7.3 Operations Site Set-up

Once an area is identified with an active rescue, control of the area immediately surrounding the site will be established before rescue operations commence.

- An Operational Work Area is established to control access to the rescue work site except for assigned Task Force (TF) members and other local rescue personnel involved in an operation, and to provide safe and secure work areas for the personnel supporting the rescue operations.

The only individuals that will be allowed within this area are the primary FRF personnel directly involved in the search for or extrication of victims. All other TF personnel must be located outside the hot zone until assigned or rotated.

When establishing the perimeter of the operational work area, the needs of the following areas will be properly identified:

- o Access/Entry Routes (Personnel Accountability Location)
- o Emergency Assembly Area

7.7.4 Incident Command System

When the Incident Command (IC) or Unified Command (UC) is designated, the Search and Rescue function will be placed under the umbrella of the response organizational structure considering all participating agencies. Fire and Rescue Force will be a leading agency.

7.7 5 Determine Search Areas

The search and rescue area will be determined by the fire and rescue first responders and specialized services are deployed. In some cases, those teams

will not be responsible for creating a master map, segmenting it, and identifying your priorities.

7.7.6 Master Map

When building a master map, you will need several different kinds of maps for information purposes. When intel and information come in, you will plot the information on a main map so you have a clear understanding of how to move forward.

7.7.7 Search Segmentation

Search areas must be appropriately sized to achieve goals. Smaller segments that can be completed are better than larger segments that cannot be completed. The population density must be considered – some search segments are going to be very small if many people live in it. Segmentation assures complete coverage if segments are well defined with clear boundaries, because findings can be easily mapped and targets can be easily located in the field.

7.7.8 Search Priorities

Highest priorities should be assigned where the greatest good can be achieved. Every segment should have a priority attached to it starting at the top priority and ending with the lowest.

7.7.9 Ground

Ground search and rescue is the search for persons who are lost or in distress on land or inland waterways. Traditionally associated with wilderness zones, ground search and rescue services are increasingly required in urban and suburban areas to locate persons with special vulnerabilities.

7.7.10 Actions on Arrival at SRE Incident

SRE responders may arrive on scene during the initial response or at a developing search after some initial actions are in progress or have already taken place. SRE responders should have in the pre-plan actions to take when arriving to minimize response time. Items to consider include:

- Upon arrival at a developing search, leaders should check in the with the current IC for briefing on actions taken so far, by whom, and what actions are currently being taken;
- Assign a staging area manager and set up staging area;
- Analyze mission and prioritize tasks; and

- Immediately after a SRE incident begins, plan for personnel relief (failure to relieve fatigued personnel could lead to critical errors in search operations and planning).

7.7.11 Initial Search Actions

The Incident Commander will need to plan and conduct a Rapid Search, which may include trackers, canines, and sound teams, as well as tasks such as perimeter patrols and trail checks as indicated by the situation and missing person profile developed.

- For searches where the Last Known Position/Place Last Seen (LKP/PLS) is a residence or structure, once personnel have been assigned to cover hazards, perform a thorough check of all buildings in the vicinity of the LKP/PLS to include attics, rafters, lofts, and basements of all structures, as well as tall grass areas, scrub, and wood lines around the perimeter of the property;

Establish confinement: Perimeter road patrols, if used, should strive for visual checks of roads/ditches in the area covered by Rapid Search at least once every 30 minutes;

- Perform trail checks or trail-running and have searchers scan the trails and environment/terrain to either side of trails
- Keep one of several people available to follow up on intelligence sources or leads as they become available (Law enforcement personnel may be a good choice for this task);
- Send law enforcement personnel (if available) to check nearby businesses for the subject, and to gather additional intelligence, as well as check nearby homes;
- Consider sound searches;
- Tracking and sign cutting are important tasks during initial response and Rapid (Reflex/Hasty) Search Phase. As people walk, they will leave signs of their passage. Skilled tracker can acquire, age and follow signs. Trackers can work with canine teams without the two teams interfering with each other; and
- Canine resources may provide significant clues for the search.

7.7.12 During the Rapid Search Phase:

- Brief all field teams;
- Maintain confinement;
- Perform Rapid Search actions as called for by the mission profile;
- Debrief all returning teams;
- Record all efforts
- Analyze mission profile to prioritize Rapid Search tasks.
- After all Rapid (Reflex/Hasty) Search resources have deployed to the field, the focus of activity in the command post should shift to the Communications and Situation functions, who will handle radio traffic, position and status reports from the field. While the Rapid Search is taking place, General Staff should begin planning for the next operational period.

SOP 8. EMERGENCY RESCUE

Sometimes rescue materials are not available to the rescue team at site in emergencies. There are various other methods, which could be useful for rescue. Such methods are known as, “Emergency Methods of Rescue”. The adequate methods of rescue is to be determined depending upon the nature of the casualty, the nature of the injuries and the position in which the casualty is found.

8.1 Rescues with One Rescuer

8.1.1. Human Crutch.

The rescuer acts as crutch to the injured. This method is used when the casualty is in a position to help them. The rescuer stands and assists the injured to place their arm around the shoulder. The rescuer grasps it with the hand. At the same time, the rescued place the other hand around the injured person „s waist and assist the person to move. This is called “Human Crutch”.

8.1.2 Pick-a-back

This method is applicable only when the casualty is conscious, without any injury but not able to walk. The rescuer lifts the injured person onto his/her back. The victim holds on with his legs and arms around the waist and neck of the rescuer. The rescuer passes both hands behind and back or under the knees and supports the injured person. This is known as “Pick-a-Back” method.

8.1.3. Pick-a-Back (Reverse)

This method is required when the casualty is conscious with an injury such as a burn on the belly or chest, wound on the neck or face (upper part of the body). The rescuer supports the patient as leans backward against the rescuer. The rescuer passes both hands backwards and grips around the waist of the injured person. The rescuer leans forward and lifts the injured person off their feet and upon the rescuer's back. This method is known as the "Pick-a-Back (Reverse).

8.1.4. Fireman's Lift.

"Fireman's Lift" is a nine-step method to lift the casualty and carry, If the casualty is unconscious but without injury to the body. It is an easy method for a single rescuer to carry the casualty down from the higher elevated areas or bring the casualty up from the basement via upper stairs and ladders also.

a. If the casualty is lying on his / her back, the rescuer kneels on one knee.
b. The rescuer turns the casualty on his/ her back gently, supporting the face of the casualty with one hand and the forearm of the casualty with other.
c. The rescuer then puts his/ her hands underneath the armpits of the casualty and lifts the chest of the injured, first onto the rescuer's knees
d. The rescuer then gradually lifts the casualty up to a kneeling position of the casualty.
e. The hands of the rescuer are then passed the casualty is lifted on to their fee around the body of the casualty.
f. The casualty is lifted on to their feet. The body of the casualty is to be supported against the body of the rescuer.
g. The rescuer then faces the casualty sideways and holds any wrist of the casualty, passed over the shoulder of the rescuer, with the other hand.
h. The rescuer then bands down and picks up the casualty on to the shoulder, one hand of the rescuer now passes in between the legs and the other hand holds the wrist of the casualty.
i. The rescuer now lifts the casualty and transports.

8**.1.5. Rescue Crawl**

This method is applicable when the casualty is found unconscious, in a smoke filled room, or in a confined place limiting movement or the casualty is too heavy.

8.2 0 Steps:

1. Gently turn the casualty on their back and tie their wrist together using a triangular bandage or handkerchief, napkin etc.
2. The rescuer kneels astride the casualty facing their head, and place their head through the loop formed by their arms. In one palm hold and neck and head of the casualty to avoid sweating or further injury.
3. The rescuer crawls forwards on; their hands and knees and drags the casualty forwards along the ground.

8.2.1. Removal Downstairs:

This method is applicable when a casualty is found on the up-stair floors but not in position to be transferred via the staircase. The rescue of the casualty has to be done with specific procedures as detailed below;

To move a casualty downstairs, lay him/her on his/her back and tie his/her wrists together. With his /her head pointing downwards on the stairs, the rescuer will keep their arm under his /her armpits so; that his /her head rest on the rescuers arm, and ease him/ her downstairs.

8.2.2. Bowline Drag

This method of rescue is useful, when a casualty is found in a narrow space/ confined area. Turn the casualty onto his /her back and tie his/her wrist together using a triangular bandage, handkerchief, napkin etc.

i. Use a sash cord of 15 feet (4.5mtrs) length or 40 ft. (12mtrs) lashing line; tie a Bowline at each end to form the loops.
ii. Place one loop over the casualty's chest and under his /her armpits, with the knot resting under his/her head so that it will keep his /her head off the ground while he /she is being pulled.
iii. The rescuer will place the other loop over their shoulders and under the armpits, forming a harness with the knot in line with the center of the back or between the shoulders.
iv. The rescuer drags the casualty out by crawling on their hands and knees.

8.2.3. Toe Drag

This method of rescue is required when a casualty is found in a narrow place where the Rescuer finds difficulty enters.

i. The rescuer sits down at the casualty's head-side and places his/her feet under the casualty's armpits.
ii. With both hands free, the rescuer pulls him/her back and at the same time drags the casualty with his / her feet.

8.2.4 More than Two Rescuers

These methods are suitable when two or more rescuers are available for rescue.

2.2.5 Two-Handed Seat

Two rescuers face one another on either side of the casualty, bend down, and pass his / her arm under the casualty's back, below the shoulders, and grip his/her clothing.

The casualty's back is raised and the rescuers slip their other arms under the middle of his/her thighs holding their hands with a handgrip. The casualty is lifted and the rescuers move with short pace.

8.2.6 Three-Handed Seat

This method is used for carrying a casualty who is conscious, heavier, might have bleeding, or injured to one of the legs.

1. Two rescuers face each other and keep their hands to form a three-handed seat as shown in the picture.
2. One of the rescuers provides support and holds the injured person's limb in the free hand.
3. The rescuers support the casualty to sit on; the three-handed seat. The victim is carried and the rescuers support his/ her injured limb.

8.2.7. Four-handed Seat

This method is useful when the victim is heavy but without any injury.

1. Two rescuers face each other and keep their hands as positioned in the picture to form a four handed seat.
2. The rescuers support the casualty to sit onto the so formed seat and the casualty puts one arm or both arms around the necks of the rescuers. The rescuers transfer the causality with short paces.

8.2.8. Fore and After Method

In this method, a casualty who has an injury in the abdomen and is unable to move can be rescued. The rescuers place the casualty onto his /her back. One rescuer raises and holds the casualty through the shoulders passing his/her hands under the arms from behind and clasping them in front of the chest as shown in the picture. The other rescuer takes one leg under each arm and the casualty is transported.

8.2.9. Two-Person Human Crutch

This method can be used when the victim is injured conscious and can help, but is unable to walk.

- Rescuers take up their positions either side of the casualty.
- Place the victim's arms round the shoulders and grasp his/her wrists with the other hands.
- Pass the arms round the victim's waist, grasping the clothing at the hip and assisting him/her as crutches.

8.3. Clothes Lift

This method is applicable when the casualty is found in a condition that he /she cannot move him /her nor any equipment is available with the rescuers for transportation of the casualty.

Four rescuers are required for this lift. Two rescuers kneel on either side of the casualty, at the shoulders and hips, and turn him / her onto his / her back.

The rescuers hold the casualty's clothing and the collar of person's shirt or dress behind the neck with one hand, and with the other hand holds the clothing at his her side.

The rescuers will hold clothing at the causality at the hips with one hand, and at the same time control the casualty's arms. With the other hand they hold the casualty's trousers, pant or dress, thus supporting his /her legs. Now the rescuers can move with short places.

8.3.2. Blanket Lift

This method is applicable when the rescuers do not have a stretcher to carry the casualty who is found in a grave condition and is to be shifted in a flat position.

i. In line with the casualty, place the blanket lengthwise on; the ground and roll up half of its width. Carefully turn the victim onto their side.
ii. Place the rolled-up portion of the blanket close to the victim, and gently place onto their back upon the unrolled portion of the blanket.
iii. Unroll the rolled portion accordingly so that the victim lies in the center of the blanket.
iv. Roll up the two edges of the blanket against the casualty's body, hold by two rescuers on either side of the casualty and support the head shoulders, hips and legs.

SOP 9.0. RESCUES FROM DAMAGED BUILDING

9.1.1 Precautions before Entering the Damaged Building;

i. Observe the construction of the building and collapsed portions
ii. Check whether the walls need any supporting.
iii. Be careful for possible hazards, which may occur form the exposed household equipment.
iv. Precautions when Entering the Damaged building

v. Use a helmet
vi. Work in pairs
vii. Listen for possible sounds
viii. keep calling
ix. Do not touch or disturb any damaged walls or blocked doors which are broken and /or projecting.
x. Treat all necked wires as live wire

9.1.2 Precautions Whilst Moving Inside the Damaged Building

i. Do not ignite fire.
ii. Keep close to the walls
iii. Be careful in all of your movements.
iv. Do not pull anything projecting out from the collapsed portions.

9.2 SEARCH AND RESCUE

Search and rescue is a technical activity rendered by a group of specially trained personnel, who rescue and attend to the casualties under adverse conditions, where life is at threat.

Search and rescue is organized in close cooperation with the community and in a team approach. The search and rescue activities are undertaken in two manners: -

Community Local Rescuers: With adequate safety measures, rescue immediately after a natural calamities such as cyclone, flood, fire and earthquake in a community.

Outside Community Resources: Circumstances where the situation is grave and the local rescuers do not have required efficiency and equipments, then specialist assistance from outside the community is required.

Rescuers to immediately take up, the rescue activities after a cyclone, flood, fire and earthquake where people might be trapped by fallen debris and in need to be rescued without delay. The community rescuers shall have to be in readiness to respond quickly, when a cyclone or flood is likely to strike .The rescue or wet ropes. Single sheet bend is formed by making a loop in the thicker one of the two ropes, hole the rope in one hand, enter the thinner rope upwards through the loop forming a half hitch around the two thickness or rope.

9.2.1. Double Sheet-Bend

This is required to join two ropes of different materials or when there is a great difference in the sizes of the ropes. It is formed somewhat like the Single Sheet-Bend, except that after having made the Half Hitch with the thinner rope, continue turning its short end to make another round turn around the two thickness of the thickness of the thicker drops and towards the bight.

9.2.2 Chair Knot

It is useful for rescue, and then recovers the rope very easily. The chair knot is used to rescue a sling in which a person may be lowered from heights. Grasping the rope near its center in the left hand palm downward, right hand palm upwards forms it. Turn the left palm upwards forming a loop (anti-clock wise) and turn; the right hand palm down forming a loop. Pass the standing part through the loops of the opposite hand pulling them through, thus forming two loops with a knot in the center adjust the loop, and make a half hitch on each loop. The Chair knot is prepared.

This is useful to recover the casualty from under the debris or from basement, where the rescuer has to crawl to the casualty and back again. Take the running end of the rope in one hand, pull it across the upturned palm of the left hand, through the fingers of the left hand, forming a loop to required size, and pass the running end, which is; held in the right hand, up through the loop. Tighten the two ends. It can also be converted into a running Bowline by simply passing the knot under the standing part. A running baseline can be put on a ring bold or object to drag object floating debris, animals or human body standing from a remote place.

9.2.3 Lashings

Lashing means to “tie something firmly to something else”. Lashing is mainly used to secure two or more poles together. There are four common types of lashings.

9.2.4 Square Lashing

This is used for lashing together two poles that touch and cross at right angles. Put a clove hitch around the spar or leg and below the crosshead or ledger. Marry the running end to the standing parts tie up and around both the poles as shown in the figure. Repeat this circuit three to four times, drawing the rope

as tightly as possible. Then take three to four flapping turns around the whole lashing between the poles. Tighten off with a clove hitch on the vertical pole above the horizontal.

9.2.5. Diagonal Lashing

This is used for lashing two poles where they cross at an angle and the poles are likely to spring apart when put under load or strain. Put a hitch around both the poles horizontally. Then take four vertical turns and draw them tight. Then take four horizontal runs and draw them tight. To finish put four turns over the lashing and between the poles. Draw them tight and end with a clove hitch.

4.2.3. Figure of Eight Lashings

This is used for lashing three poles together to form a tripod's before lashing, insert spacers between the poles. Marry the ends and working upwards continue lashing in the figure of eight fashion with 6-8 turns. Add two to three turns between each pole and round the lashing. Finish with a clove hitch above and on the opposite to the starting pole.

9.2.4. Round lashing

This is used for lashing two poles together, when they are parallel to each other to form a sheer leg. This is also called sheer lashing. Before starting, insert spacers between the poles. Put a clove hitch around one pole and marry the ends and continue with 6-8 close turns around both; the poles, going upwards Add 2 or 3 turns around both the poles going upwards. Add 2 or 3 turns around the lashing and between the poles. End with a clove hitch above and on the opposite pole to the starting pole.

SOP 10. STRETCHER AND CASUALTY TRANSPORTATION

Wounded casualty is to be transported with utmost safety to avoid further risk. It may happen that the trained rescuers have to rescue the causalities from a collapsed structure, to from a confined place, or on the uneven ground with obstacles. Different techniques are required for different ground conditions. The knowledge of First Aid Services and adequate transportation of the casualty is important for the rescuers. In case of shock or serious injuries, the patient needs warmth, this could be provided by using blankets.

10.1. Standard Ambulance Stretcher

The standard stretchers used in the Ambulances are 230 cm pole length, 180 cm canvas 57 cm width, and 15 cm height from the ground and weight about 14 kg.

10.2. Improvised Stretcher Preparation

Very often the rescuers do not find a standard stretcher in rural areas or during a big emergency, in such situations stretchers could be improvised from the locally available materials.

Collect two or three shirts or thick materials. Inserted two equal sized bamboo poles in between the shirts. Keep both the poles separated by trying both sides with short pieces of bamboo. The stretcher is prepared.

Collect two paddy/sugar sacks; make small holes in both edges (vertical) of the sacks and insert two poles. The stretcher is prepared.

Wooden planks, doors covered with straw or clothes can be used as stretchers.

The charpai (rope bed) can be used as a stretcher.

10.3. Stretcher Carriage

Between two rod four bearers of equal height can carry a stretcher. The stretcher could be carried by hand or on the shoulders. Two bearers are sufficient on a level ground and without obstacles.

10.4. Four Stretcher Bearer Loading

Keep the stretcher at about 1mtr. Distance from the casualty. Three rescuers on one side and one on the other side will lift the patient onto the knees of the three rescuers side. The 4th rescuer will prepare the stretcher with the blanket, and place the stretcher under the patient.

Then all four rescuers will lower the casualty onto the stretcher. The rescuers will all simultaneously lift the stretcher at one to avoid patient imbalance.

10.5. Two Stretcher Bearer Loading

Two bearers will prepare the stretcher and place it parallel to the casualty. Both the bearers stand at the hand and the foot of the casualty, together they left and place the patient.

10 .6. Securing the Casualty to a Stretcher

A casualty has no danger of slipping upward to downward on a level ground when carried horizontally on a stretcher, however the causality needs securing to the stretcher to prevent from slipping in more uneven terrains. It may happen

that the casualty needs to be carried by a stretcher from the basement, lowered from an upper floor, or carried over rough ground. Where the bearers may stumble and the casualty may stumble and the casualty into the stretcher. Tie the right head side of the stretcher handle with clove hitch and pass the rope of about inches and take a round over the chest of the casualty and under the stretcher with Half-Hitch knot.

The second and third round is made over the body. The third round should be placed below the knees. Secure the feet and the ankles with rope. Tie the end with the handle. The casualty is secured to the stretcher.

10.7 Precautions:

The lashing should not be secured so tightly around the casualty as to hurt the injured part or to interfere with their breathing.

The hitch around the feet and ankles must be sufficiently tight to hold the casualty firmly, when the stretcher is held up vertically.

SOP 11. MAJOR FLOODING

11.0Introduction

This SOP should be read and understood with the appropriate Risk Assessment forms and detailed training concerning Rescue from serious flooding incidents. Any attendance at serious flooding incidents that involve 'Life Risk' should always be coordinated through the Policy Rescue, if in attendance.

11.1 Rescue Procedure

1. Rescue options

The options provided by the Fire and Rescue Force for the rescue of persons from serious flooding fall into two distinct options: land based and water based rescue.

a. Land Based Rescue

Rescues that are undertaken from the water's edge using the one of the rescue techniques of talk, reach and throw. Entry into water must not be made by any rescuer.

b. Water Based Rescue

Rescues that are undertaken from either on or in water using the rescue techniques row and go.

Water based rescue and the rescue options 'row and go' will only be undertaken by the FRF flooding rescue team.

All operational fire station-based personnel in FRF are trained in land-based water Rescue. All fire appliances are provided With personal flotation devices, throw lines and a hose inflation device to undertake a land based rescue using the techniques talk, reach and throw techniques.

11.2 Land based rescue

In accordance with the Fire Rescue Force Risk Analysis Strategy and Health & Safety Initiatives currently being reviewed, Safe working near, on or in water, the hierarchy of rescue techniques stated should be applied, starting with the first technique that offers the least risk to the rescuer.

- **Talk**

Quickly establish and maintaining contact with a casualty. Explaining what they need to do and providing them with continual Encouragement

- **Reach**

Using appliance equipment such as ceiling hook, inflated hose lines to pull the casualty to the bank

- **Throw**

A buoyant object thrown to the casualty such as a floating throw line will enable the casualty to be pulled to safety.

The procedure for carrying out land based rescue is detailed in a flowchart (Appendix A), which is carried on all operational appliances and as an 'Aide-Memoir'. This flowchart should be used by the Incident Commander.

11.2 Water based rescue

The remaining two techniques, row and go, detailed in the training manual will only be carried out by specialist crews that have been trained to a minimum of FRF water rescue technician level 1, or by Internationally recognized training board.

- **Row**

This will require the use of the FRF rescue boat. Only specifically trained personnel will apply this rescue technique. They are provided with specialist PPE and equipment as well as the necessary level of training to achieve this safely.

- **Go**

This technique involves entry into water and is only used as a last resort if all previous techniques have proved unsuccessful. Entry into water to effect a rescue should only be contemplated as a last resort when life is at risk and saving life is a realistic possibility. Although the techniques 'row & go' are only to be carried out by suitably trained personnel, crews trained only in land based rescue will play an important part at flooding rescues by carrying out safety and support roles.

11.3 Mobilizing Resources

On receipt of a call to a rescue at serious flooding FRF Operations Control Room will mobilize the two closest available fire appliances, the Flood Rescue Team and a duty officer. Control will also inform Police Rescue / Air Rescue division of the incident and request their attendance.

The Air Rescue division may have the resource to call any support service to assist in any potential rescue The FRF Incident Commander will retain overall control of the incident and may request Air Rescue Commander to undertake a task. The control of Air Rescue resources remains with the Captain of the Air Rescue Division.

11. 4. Water Emergency

In the event of FRF personnel accidentally falling into water and finding themselves in difficultly an assistance message will be sent to Operations Control Room stating “Water Emergency”.

On receipt of a “Water Emergency” message Operations Control Room will immediately mobilize an additional 2 pumps and an additional Duty Officer.

11.5. Risk assessment

Risk assessments can be found in Appendix B and C of this Service Instruction.

11.6. General safety considerations

It is the responsibility of the Incident Commander to put into place a safe system of work for dealing with any operational incident. In relation to incidents involving water the following considerations should be incorporated into any plan of action:

Establish and maintain an effective means of communication between Service personnel, Air Rescue (if in attendance), and those being rescued.

Crew members should be continuously monitored for signs of fatigue and hypothermia.

When establishing an inner cordon extend the cordon to at least 3 meters from the water’s edge. Ensure that the area is well illuminated as appropriate.

When attempting a rescue from water always deploy upstream spotters to give an early warning of any approaching hazards. In addition, have downstream safety in place equipped with throw lines or inflated hose used as a safety boom.

11.7 Personal health considerations

Personal hygiene is important where crews have been in contact with open water, mud or other potential contaminants. It is important that all cuts and broken skin are covered with waterproof plasters prior to becoming involved in water-based incidents, and that the appropriate PPE is worn at all times. All eating, drinking and smoking is to be avoided until such time as personnel have been thoroughly decontaminated.

All personnel must decontaminate as soon as is practicable following any incident, and all equipment thoroughly washed and tested. Normal showering in hot water with soap will usually suffice in achieving the appropriate level of personal decontamination following contact with most waterborne contaminants. Where there is concern that this might be insufficient, advice should be sought from the FRF's occupational health provider. The most common forms of waterborne infection are:

- Leptospirosis (Weil's Disease) Cyan bacteria (Blue-Green Algae);
- Hepatitis 'A';
- Gastrointestinal bacteria e.g. salmonella, Campylobacter, Sigel, E. Coli, Wisteria, etc.; and, Man-made pollutants e.g. agro/industrial pollutants, glass, medical sharps, etc.
- Due to the enhanced risk of exposure FRF water rescue teams will receive inoculations as recommended by the Service's occupational health provider.

SOP12: FOR BOMB THREAT

Scope

This SOP is applicable for the bomb threat at site. The threat may be in different forms such as letter bomb, parcel bomb, book bomb, car bomb, human bomb etc.

Purpose

The purpose is to localize the emergency, minimize effects of bomb threat/ explosion on property and people, effective search, rescue and systematic evacuation to safe location from the vulnerable zone.

There is a significant probability of joint fire and rescue, Police, Military and medical operations involving the following events:

Consequence Management

Fire
Fires/Rescue/Medical
Accidental chemical release/explosion
Intentional chemical release/explosion
Structure collapse

Crisis Management

Police
Shots fired - officer down
Hostage situation
Armed/barricaded suspect
Crisis response team deployed
Bomb threat

I. Bomb Threats/Explosive Devices

A. Explosive devices: It is the policy of Fire and Rescue Force to respond non-emergency to bomb threats. Upon arrival, fire and rescue personnel will stage at least 1000 feet away from the reported location and maintain a high state of readiness i.e. personnel will remain on the vehicles, vehicles will stage with appropriate cover, no radio traffic within 800 feet, etc. In-house personnel will be utilized to search the building, grounds and vehicles.

B. Upon notification of an explosive device threat the following procedures are recommended:

1. The JWTZ will be the Incident Commander in charge of the on-scene search, security and evidence collection activities.
2. The Fire and Rescue Force will respond with 2 engines, 1 fire truck, 1 rescue and 1 chief officer to the threat. The ranking fire officer will meet and confer with the ranking law enforcement official. All fire and rescue team will stage upwind/uphill at least 1000' away from the target area and maintain radio silence, to include cellular phones usage and telemetric equipment, and utilize such cover as terrain/structures may provide.
3. Fire and Rescue Personnel will assist in the search only at the specific request of the Incident commander (JWTZ). The truck company crew will be designated as the search/away team.
4. The following guidelines should be followed during a search and secure mission for both civilian and fire and rescue facilities which have received a credible threat of an explosive device on-site:
    a. The IC will determine the need to evacuate personnel. He/she will designate hot warm- and cold-zones and make them known to the fire and rescue official. Re-entry decision will be made by building/firm/area management officials.
    b. In-house security, maintenance and janitorial personnel should be used to search such areas as hallways, restrooms, stairwells, elevator shafts, utility closets and areas outside the structure. Vehicles in the hot/warm zones should be checked by in-house personnel.
    c. Personnel in-house should check their immediate area to include apparatus in-house or returning to station from alarms to determine if any object is noted that was not placed there by the employee, or a package was brought in by the employee without knowing the contents of that

package, or a document/ package was delivered to the employee by someone the employee cannot readily identify.

d. A method to rapidly identify cleared areas should be utilized, i.e. chalk/tape/sign. Verbal, non-radio, reports will be forwarded to the appropriate law enforcement official. A sign/marker indicating "search complete-nothing found" should be posted, including completion time/date.

e. If a suspicious object is located, personnel involved in the search/secure mission should not touch, move, jar or make loud noises in the area surrounding the object. Confirm cellular phones, radios and telemetric equipment are off. The hot/warm zone may be expanded to 1600 feet (8 city blocks) or more, depending on size/type of object. Remote staging should be established at least 2000' (10 city blocks) uphill and upwind from site. After a primary search/secure sweep has been accomplished, assign a secondary search/secure group to sweep the area for overlooked/secondary/tertiary or additional objects/evidence. Appropriate law enforcement personnel will secure the object and declare the area clear. Should EOD (Explosive Ordinance Disposal) assets, civilian or military, be deployed, medical care will be provided by advanced life support tactical medics trained in post blast rescue procedures.

II. Explosive Devices/Post Detonation

A. It is the policy of the Fire and Rescue Force) to respond to all reports of explosion(s) as if they were caused by either (1) an explosive device. (2) an intentional chemical release or (3) an accidental chemical release. The first arriving emergency team will (1) confirm location, (2) report

estimated casualties/damage, (3) wind direction/drainage. Upon confirmation of the fact that an explosive device has been detonated. incoming equipment should stage from 1000' to 3000' from zero from an assembly point to capture walking wounded and witnesses who should be guided into the safety/holding area. Additional in-coming equipment should be instructed to stage 2000' from ground zero. When multiple threats to the same location have been received. vary staging area locations. The treatment and transport sector will initially be established in this area to track all injury transports. An air control area should be requested defining at least a 3000' minimum approach distance to ground zero.

B. Upon receipt of an alarm for explosion, with or without fire, the following procedures are recommended:
    1. Fire and Rescue operation officer should be the incident commander in charge of evacuation; patient extrication/triage/treatment/transport; damage assessment; potential for spread of fumes, flames, and/or contamination; decontamination; and preparation for transition into the evidence collection phase of the event; documentation of the event, including a roster of all emergency personnel on the scene.
    2. Fire and Rescue Force (FRF) will respond an Augmented Task Force (2-Type I Engines, l-Type I Ladder, 1-Type I Rescue, 1 Hazmat Tech, and 1 Chie Officer) to the staging area. All fire and rescue hazmat units should stage upwind/uphill at least 1000' away from the target area and maintain radio silence within the Hot Zone. Protection can be afforded from such on-scene cover as terrain/structures may provide.
    3. The appropriate command officer will designate, in a manner appropriate to conditions found, a safe area for incoming personnel. A patient collection point will be designated approximately 300' upwind and uphill from the blast area and

staffed with a person who will direct the walking wounded to the triage, treatment and transport area in the warm zone. Upon completion of that function, he/she will describe the conditions found in order to define the anticipated requests for resources. This may use the terms OPCON (Operational Condition - describing the condition of the response system) or SITCON (Situational Condition - describing the site-specific condition). The potential for military involvement may exist at any OPCON/SITCON level.

OPCON 5 - Normal - Event can be resolved by on-duty local resources with limited special resource requests.

OPCON 4 - Reinforced - limited special resources requested and deployed. i.e. SWAT, HAZMAT, GBI, FBI, ATF, etc. (A postulated, general threat)

OPCON 3 - Watch - Automatic deployment of special resources. Local and Regional Mutual Aid Groups deployed. (A credible threat)

OPCON 2 - Alert - State officials assume control of the event. (A significant, imminent threat)

OPCON 1 - Warning - Federal Emergency Support Function activated with Federal assumption of control of the event. (Post blast)

4. Injured victims/personnel encountered in the Hot Zone should be extricated/extracted in a Load and Go" manner without fashioning an airway, c-spine or bleeding control management protocol. Remove patients to the designated safe area for treatment and transport. If practicable, note location of patient for evidentiary purposes. A 4-tier triage system should be established:

    -Walking wounded (separate witnesses)

    -Immediate transport (<30 minutes)

-Delayed (>30 minutes)

-Dead (evidence)

5. Should no immediate safe area from explosive effects be readily available, 4 fire trucks aligned in a 12' - 20' square can provide limited protection for a brief time. The underside of the vehicles should be lined with materials suitable for reducing shrapnel, i.e. backboards and tarps, ladders and hose, etc.
6. Initial Recon Teams should respond in full protective equipment, affording limited protection against shrapnel, contamination and debris. There is a significant probability that additional devices and/or unconsumed remains of the original device will be present. Recon/search/secure personnel should not touch, jar, move or make loud noises in the area around these items.
7. A Liaison Officer should be appointed to receive incoming information. This person should be authorized to match up persons needing to exchange vital information. There by insuring a smooth transition from local to national level.
8. A risk assessment protocol should be implemented addressing at least the following:
    - Structural stability
    - Contamination
    - Additional devices
    - Environmental concerns
    - Command structure
    - Personnel accountability
9. A crime scene/chain of evidence group should be formed consisting of representatives of each agency on scene. This will allow for the preservation and capture of evidence to occur with sufficient security to minimize contamination and maximize preservation of the crime scene. This should also provide for

evidence which may leave the scene transported by runoff, clothing, equipment, and patients.

C. Operational Guidelines - Hot/Warm Zones

1. Avoid standing near glass surfaces/structures, i.e. windows, doors, sculptures, etc.
2. Practice appropriate hazmat scene protocol/discipline, i.e. wet areas, kicking up dust, sanitary hygiene practices, etc.
3. Command should deploy a minimum number of resources for Hot Zone Racon activities
4. Recon activities should focus on personnel accountability, patient tracking, and structure assessment.
5. Periodically silence recon personnel to listen for sounds of trapped people, leaking gas, running water, etc.
6. Implement patient self-help activities by having those who can assist each other do so, guiding them into a patient collection/holding area. Ultimately pre-hospital treatment should be performed in a safe holding area prior to transport into a definitive care facility. Contaminated patients should receive gross field decon in accordance with established hazmat protocols. The holding area should be large enough to handle a landing zone (LZ), 30 Type 2 Rescue vehicles and up to 100+ patients. Trauma centers should be placed on alert.
7. Cover - Something that protects or shelters.

D. Preparedness activities

Mock drill for evacuation.

- Training; Learn about causes and effects. Speak about them in a calm and composed manner.

- Awareness program - Posters, boards. Prepare back up teams ready for rotation of personnel. Ensure that communication equipment is in working order.

E. Dos and DON'Ts

DOs

- Cordon off the area.
- Evacuate the area
- Be careful about entering into a room in which or seat which an explosion has occurred to bring you there. It may be used to trap you.
- Examine carefully without moving or tilting the suspected object, its shape, size construction, finish, marking and special features, if any. Note these particulars down. Try to identify it ascertain whether the object has been moved or handled before you saw it.
- Consideration should be given to suspicious vehicles/packages at the EoC and Assembly points also.
- Follow the rule **"DO NOT TAKE THE BOMB AWAY FROM THE PUBLIC.TAKE THE PEOPLE AWAY FROM THE BOMB".**

DON'Ts

- Do not panic.
- Do not open a closed room/ door/ window/ cupboard/ box in the normal way tap wood cover and open with a ling pole or in any other improvised manner.
- Do not switch on any electric line, if the room is dark. Use hand torch for illumination.
- Do not touch, lift, drag kick, hit or move the suspected object, examine room or place quickly to see, if there is any wire or string held taut, any loose pair of insulated wires connected door/ window/ cupboard/ box or any lighted fuse or lighted rope if so

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