

CERT Annual Refresher - Course Overview

- CERT process:
- 1) **Organize** Your Team
 - 2) **Size Up** – Recon the Scene
 - 3) **Triage** – the victims
 - 4) **Stabilize** victims, remove to Casualty Collection Point

Use the mnemonic “SAFE” as a reminder to help you remember:

SEARCH – Safely, systematic, buddy system

ATTACH Tag - Triage first, rescue later

FIX – Life threatening injury

EXTRICATE - Remove victims from danger

Incident Management Purpose > *To produce effective results safely!*

- 1) Do the most good for the most people
- 2) Account for rescuers, victims, resources

ICS Process

- 1) Identify **SCOPE**
- 2) Determine **STRATEGY**
- 3) **DEPLOY** resources
- 4) **DOCUMENT** actions and results

Use the mnemonic CALM to remember CERT incident command structure:

COMMAND

ACCOUNTABILITY

LOGISTICS

MEDICAL

**“Command Team”
Incident Commander
Accountability**

Functional “Groups”

**Med Unit
Leader**

Caregivers

**Logistics Unit
Leader**

Staging Officer

Rapid Intervention Team (rescue the rescuers)

Geographical “Divisions”

Location 1

Teams:
Search1
Rescue1

Location 2

Teams:
Search2
Rescue2

Location 3

Teams:
Search3
Rescue3

As a reminder to help remember the CERT process
remember the robot from the movie Star Wars - "R2D2":

RECON > RANK > DISENTANGLE > DOCTOR

RECON

Maintain situational awareness

Check surroundings frequently
Stop, Think, Observe, Plan, Act

Sizeup - hazard identification, damage assessment

No wall, no roof, no enter!
Heavy damage don't enter to rescue – danger tape
Moderate Damage – non structural, in/out quickly
Light damage – Go for it!

RANK

Triage - "RPM" (triage in-place *prior to rescue*)

Respirations <30/min, not "*panting like a puppy*"

Perfusion blanch test nail bed <2secs

Mental status – awake, aware, understands simple commands

DISENTANGLE

Rescue decision is based upon Risk to Rescuers!

Rescue the greatest number in the shortest exposure

Remove the injured from immediate danger

Rescue the lightly trapped first

Work safe, use PPE, Time, Distance, Shielding

DOCTOR

Triage First – Rescue Later

Affix TAG before rescue. Refer to the triage *handout*:

Control bleeding

Treat shock

Don't splint in the field.

Comfort is important. So, if painful, "body splint."

Immediate care for life threatening injuries

Think before acting. Move methodically, but efficiently.

“RECON”

For Hazards and SEARCH for Victims Document hazards and search findings

1) **Pre-plan in your neighborhood**, gather facts, www.terrafly.com
Use maps, GIS identify high occupancy structures, flood plains, etc

2) SLOW DOWN – perform an adequate SIZE-UP

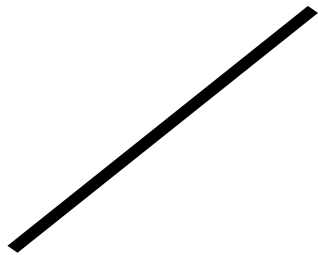
3) **Windshield surveys**, immediate post-incident, access area of damage.

4) **Maintain situational awareness**, check your surroundings frequently.

5) **Before entering walk building perimeter**, call out, “**Is anyone in there?**”

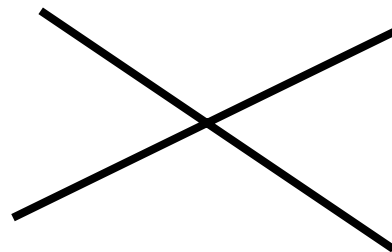
6) **Mark building** using duct tape strips placed to left of door as you enter:

When you enter



Single slash
Structure or room

When you exit



Add second slash
Each structure or room
(Identify victims & hazards)
TIME AND DATE

“RECON”

Continued

SEARCH METHOD:

1) As you enter call out:

“Search Team, Is Anyone In Here?”

“Are You Hurt?” “Can you walk to me?”

If hurt or trapped say **“STAY PUT we’ll come to you.”**

2) Physical Search Interior – systematic approach, either top down or bottom up

3) Stop frequently to LISTEN

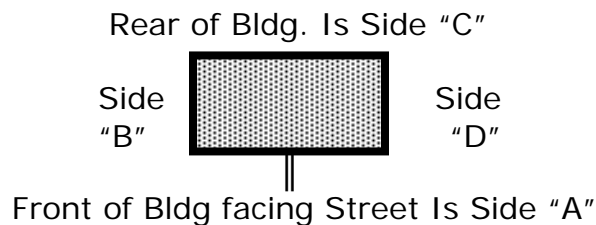
4) Triangulate with your flashlight

5) Mark searched areas, document results

6) Report to Command.

Radio location of hazards, yellow and red victims to Command:

Refer to corners by their adjacent sides, the “AB Corner” etc.



7) Rescue team moves in to remove victims as your team completes its building search.

“RANK”

Triage in a Disaster Environment

Triage, like other disaster response efforts, begins with size-up. The general procedure for triage in a disaster environment is as follows:

Stop, Look, Listen, and Think. Before you start, stop and size up the situation by looking around you and listening. Above all, THINK about how you will approach the task at hand. Continue to size up the situation as you work.

Conduct Voice Triage. Begin with voice triage, calling out something like, “Emergency Response Team. If you can walk, come to the sound of my voice.” Instruct those survivors who are ambulatory to remain at a designated location, and continue with the triage operation.

Follow a Systematic Route. Start with victims closest to you and work outward in a systematic fashion.

Conduct Triage Evaluation. Evaluate victims and tag them RED (immediate), YELLOW (delayed), or BLACK (DEAD). Remember to evaluate the GREEN walking wounded. Everyone gets a tag.

Treat RED Victims Immediately. Initiate airway management, bleeding control, and/or treatment for shock for Category I (immediate) victims.

Document Results. Document triage results for:

- Effective deployment of resources.
- Information on locations of victims
- A quick record of the number of casualties by degree of severity
 - Essential info for responders and EMS transport units.

Duct Tape Strip on Victim: Marking Example:

Place tape strip on left shoulder:

Team ID, Victim No.	T3-V5
Condition	Red

Remember “RPM”

Respirations <30/min

Perfusion blanch test nail bed <2secs

Mental status understands simple commands

Step	Procedures
1	<p>Check airway/breathing. At an arm's distance, shake the victim and shout. If the victim does not respond:</p> <ol style="list-style-type: none"> 1. Position the airway. 2. Look, listen, and feel. 3. Check breathing rate. Abnormally rapid respiration (above 30 per minute) indicates shock. Treat for shock and tag "I." 4. If below 30 per minute, then move to Step 2. 5. If the victim is not breathing after 2 attempts to open airway, then tag "DEAD."
2	<ol style="list-style-type: none"> 1. Check circulation/bleeding. 2. Take immediate action to control severe bleeding. 3. Check circulation using the blanch test for capillary refill. <ol style="list-style-type: none"> 1. Press on an area of skin until normal skin color is gone. 4. A good place to do this is on the palm of the hand or nail beds. 5. Time how long it takes for normal color to return. 6. Treat for shock if normal color takes longer than 2 seconds to return, and tag "I."
3	<p>Check mental status. Give a simple command, such as "Squeeze my hand." Inability to respond indicates that immediate treatment for shock is necessary. Treat for shock and tag "I."</p>

“DISENTANGLE”

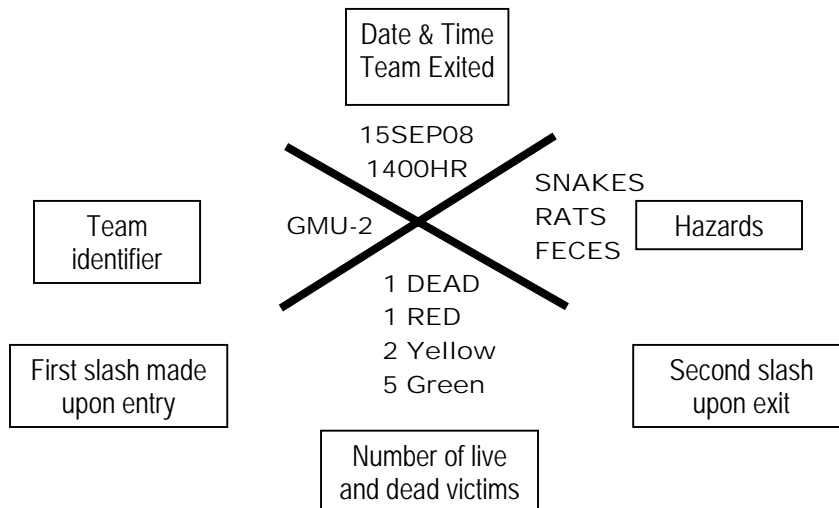
RESCUE Purpose – To create a safe environment for the victim

PROCESS:

- 1) LIFT OBJECTS – don’t step on, step over or around.
- 2) USE TOOLS – simple machines
- 3) BE SAFE – Ensure object free and people clear before moving. Avoid hang-ups, injuries. Beware of pinch points.
- 4) TRIAGE - victim before moving.
- 5) DOCUMENT RESULTS

Search Assessment

Update building marking upon team exit



“DISENTANGLE” - continued:

LIFTS AND CARRIES

Fireman’s carry – Generally no! Only if victim if 80# or less

Solo extraction methods: Clothes drag
Log roll and Blanket drag
Army Rope / Webbing Drag*

**Roll casualty onto their back, thread rope or webbing under small of back, slide across top of buttocks, loop rope or webbing under, through and around belt at hips, “X” across chest and under armpits. Attach snap link and drag to safety.*

Team carry methods:

Log roll and blanket carry – advantage through doorways, around corners or up and down stairs (*requires minimum of four people*)

Door, table, surf board or other long-wide board 2”x6” or wider – (*best with four rescuers*) if victim is small can do with two people over a short distance.

“CAT stretcher” - Two folding metal chairs, flat-stacked back-to-back, with legs out, wrap or tie securely together using duct tape, 550# paracord or webbing.

Chair carry VERY problematic – Evac chairs require training.

“DOCTOR”

Death from trauma:

Phase 1 minutes, irreparable damage to vital organs

Phase 2 hours, crush injuries, rapid bleed-out from internal injuries,

Phase 3 days, systematic organ failure from injury-caused infections

Respiration

Control head, open airway, look, listen feel, not breathing – DEAD

12-20 breaths per minute OK, if “Panting Like a Puppy” - RED

Comfort lowers respiration rate and helps calm victim down

OK for them to sit up if comfortable, don’t “make” them lie down.

Cool burns with water only - Don't remove clothing, soak to cool

Burns to face critical, swelling impairs breathing

If victim inhaled hot air tag RED

Bleeding injuries and Shock - the "Killers"

Rapid loss of perfusion: - Blanch test nail bed > 2 secs.

Head or spinal cord injury causes blood vessel dilation drops BP

Chest injuries

Major bleeds

Abdominal injuries

Handle GENTLY, elevate feet, keep warm, direct pressure, pressure point

Prevent secondary infection, irrigate only, apply dressing, bandage

Mental Status

Unconscious victim – RED

Semi-Conscious - unaware, can't follow simple commands - RED

Conscious victim, awake and aware can be cared for and made more comfortable, move to a safe place, protected from weather, wind, rain, and tag **Yellow**.

SAFETY AWARENESS

Disaster Worker Injury / Risk Factors

- **Tool / equipment hazards**, risk of hand, eye, head injuries, electric shock, chemical burns
- **Human factors**, stress / fatigue
- **Structural instability**
 - Trauma risk, falls, building collapse potential
- **Terrain**, loose rock, fallen limbs, wet or insecure footing, risk of falls, puncture wounds and lacerations from debris
- **Environmental effects**: lightning, cold, wet, wind, dust, flying debris, smoke, fumes
- **Flooding**: Process for water rescue: Reach, Throw, Row and Go
 - REACH** out to victim with hand, pole, ladder,
 - THROW** victim a rope, life vest, picnic cooler, anything that floats
 - ROW** out to reach them from a boat or raft
 - GO** immediately to CALL 911, do not delay.
- **Incidental exposures**: chemicals, pathogens in flood waters, etc.

If you are contaminated:

- Remove everything, including jewelry
- Cut off clothing normally removed over the head
- Place contaminated clothing in plastic bag, tie closed
- Wash your hands before using them to shower
- Flush entire body with cool water
- Blot dry with absorbent cloth
- Put on clean clothes
- Avoid use of affected areas, to prevent re-exposure
- If professional help arrives, report to responders for thorough decontamination and medical assessment.

Recommended PPE:

- Sturdy footwear
 - Ankle support, traction sole
 - Safety toes recommended
- Work gloves
- Medical exam gloves and spares
- Safety glasses
- Rain gear and suitable outdoor work clothing
- Reflective vest
- Hard hat
- N95 respirator

Mandatory Information for Personnel using Respirators When Not Required Under the OSHA Standard 29 CFR 1910.134

- Read and heed all manufacturer instructions and warnings regarding fit testing, use limitations, care and maintenance
- Choose a respirator certified for the contaminant of concern, based upon the NIOSH label which tells you what the respirator is designed for and how much it will protect you
- Do not wear your respirator into atmospheres for which it is not designed to protect you. A respirator designed to filter particulates will not protect you against toxic vapors, fumes, smoke or pathogens
- Keep track of YOUR respirator, so that you do not mistakenly use someone else's.

Infection Control Awareness

Allan J, Morrison, Jr. MD, MSc, FACP, FIDSA, INOVA Health System
Epidemiologist, Chair, Infection Control Committee INOVA Fairfax Hospital
Clinical Assistant Professor of Medicine, Georgetown University Hospital
Training for the Fairfax County Office of Risk Management, Used by Permission

- **Potentially Infectious Materials**
- **Disaster conditions which increase risk**
- **Mechanisms of Transmission**
- **Categories of Transmissible Organisms**
- **Disaster Worker Protection**
- **Guidelines for exposure**
 - **Blood and body fluids**

Potentially Infectious Materials

- ***Body secretions / excretions***
 - **Human: poor sanitation conditions**
 - **Animal: livestock, rodents, vermin, insects**
 - **Decayed carcasses**
 - **Hanta virus from contact with rodent feces**
- ***Putrescible materials***
 - **Spoiled foodstuff, garbage and refuse**
- ***Allergens***
 - **Concentrated fungi, molds**

Disaster Conditions

- ***Stagnant surface water***
 - **Mosquito harborage**
- ***Contaminated flood waters***
 - **Sewage treatment system overflow**
 - **Petroleum, industrial, agricultural, hazmat releases**
- ***Structural instability***
 - **Trauma risk, falls, sharps potential**
- ***Airborne contaminant plumes***
 - **Smoke, dust, toxic gases,**
 - **Radioactive fallout from RDD or NuDet.**

Mechanisms of Transmission

- ***Direct contact (“portal of entry”);***
 - **Non-intact skin**
- ***Penetrating injury (percutaneous)***
 - **Physical injury, causes portal of entry**
- ***Aerosol***
- ***Vector borne***

Transmissible Organisms

- **Tetanus** (*most likely in adults who have not received tetanus toxoid booster within 10 years*)
- **Hepatitis A, B** (*C much less likely*)
- **Enteric bacteria** (*e.g. E. coli, Salmonella*)
- **Vermin-mediated**
 - Cats: *Toxoplasmosis*
 - Mice, rats: (urine): *Leptospirosis*; (feces) *Hantavirus*
 - Tularemia
 - Plague (rat flea)
- **Toxins** (*botulism*) *decaying, spoiled foodstuffs*
- **Vector-borne** (*Lyme, West Nile, Malaria*)

Disaster Worker Protection

- **Good personal hygiene**
 - Wash hands, use hand sanitizers, double-glove
- **Use DEET containing insect repellants**
- **Tetanus toxoid booster (every 10 yrs)**
- **Hepatitis A/B vaccine**
- **PPE use**
 - *Gloves, hand sanitizers*
 - *N95 respirator in dusty environments*
 - *Correct sizes, fit testing*
- **Awareness training**
- **Medical screening (post event)**
 - *If confirmed exposure*

Guidelines for exposure to Blood and body fluids

- Immediately notify Command, triage exposed CERT as casualty
- Command contacts the Public Safety Answering Point
- Exposure is not simple contact, but a specific eye, mouth or other mucous membrane, non-intact or piercing contact with blood or potentially infectious material
- Clean exposed area thoroughly with soap and water
- Public Safety – EMS will contact consulting on-duty physician regarding circumstances of the exposure
- If consulting physician agrees exposure has occurred, volunteer will be sent to nearest health care facility to undergo blood sampling and post-exposure prophylaxis...

CERT Actions Upon Exposure to Blood or Body Fluids

- Identify source patient to enable blood testing
- If consent is not obtained, public safety must be notified immediately to initiate legal actions permitted under Virginia Code to obtain source patient's blood for testing
- Incident Safety Officer completes Exposure Incident Report in compliance with CDC and VHD guidelines.
- DO NOT DELAY treatment, go directly to the nearest hospital emergency room
- Record all pertinent information regarding the specific exposure and bring it with you to the emergency room.

CERTS CAN protect themselves through:

- **C**aution
- **A**lert Awareness
- **N**otification