

CERT Morgue Protocols for Isolated Rural Communities during a Catastrophic Disaster

Purpose: The purpose of this training is to provide basic guidance to Community Emergency Response Teams (CERT) in rural communities who are isolated during a catastrophic disaster such as a large, *Cascadia Subduction Zone* Earthquake and Tsunami, who don't have access to professional responders, but who need to make decisions regarding those who have died. This training will provide a framework a community may use to attempt to deal with the dead in an organized, safe and respectful manner. Why should we have guidelines for establishing and operating a Morgue? Because we want to handle the deceased safely, with respect and dignity, improve the psychological health of survivors, and help to prevent the spread of disease.

A CERT Morgue: is a temporary holding & processing area for people in the community who have died as a result of a catastrophic disaster. It is activated when professional responders are not readily available. However, it is not designed for criminal scenes. Now, let's discuss several considerations for operating an organized, safe and respectful morgue.

LOGISTICS & SET-UP

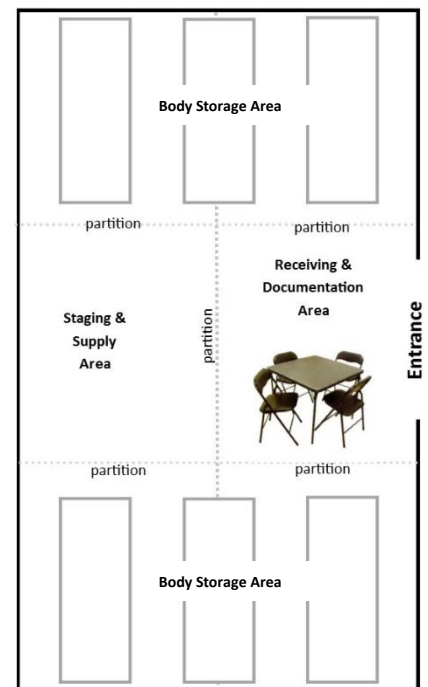
Designate a Space: Find a structure in which to house the Morgue operations, such as a shed, green house, detached garage, or even a tent. It should be located away from the medical treatment areas and away from public view. When considering a space, assess the type of structure, the condition it is in, and its location in relationship to the hazards you are dealing with. For example, will it be impacted by aftershocks? Is it located near an area susceptible to landslides? Can it be secured firmly from the wind? Having a designated space will provide privacy and will help protect the bodies and those working to prepare the deceased from the weather and other hazards.

Prepare in Advance: If your neighborhood takes steps to prepare in advance of an earthquake or other natural disaster, you might consider purchasing a 10' x 20' portable, garage Canopy and store it in a designated neighborhood Disaster Supply Cache. These canopies come with sturdy steel frames, have windows for natural light and ventilation, and are easy to set up. They are very cost effective coming in at only about \$250 each at Costco. These tents can easily be connected together if needed to expand the Morgue space. However, they don't come with a floor, so you'll need to purchase a tarp for the ground separately. And you'll need good supplies for securing them from the wind.

Sample Morgue Layout: Here is a Sample Morgue Layout for a tent Canopy. It can be scaled or adjusted based on the space you are using and the number of victims received. There are three main sections in a Morgue: 1) the Receiving & Documenting Area, 2) the Staging & Supply Area, and 3) the Body Storage Areas.

Partitions: You can separate the different areas of the morgue by hanging partitions down from the cross beams of the tent canopy. You might use sheets, tarps, shower curtains or whatever material you have available. Keep partitions closed as much as possible. This will increase privacy, minimize opportunities to see the deceased, and can improve psychological recovery. You may also be able to hang lighting down from the cross beams.

Receiving & Documenting Area: Here are some considerations for the Receiving and Documenting Area: Arrange to place a table and chairs, if available, to one side of this area. This will provide a space to take care of all the documentation, and will allow room on the other side for rescuers to enter with victims. You will need a quantity of these tracking instruments: 1) Morgue Tracking Forms 2) Victim Identification Forms, and Wrist/Ankle Tags. And you will need various office supplies such as clipboards, paper, scissors, pens, Sharpie, masking tape, Duct tape, etc.



Tracking & Identification: The Morgue Team members working in the Receiving and Documenting Area are responsible for tracking all of the Morgue Activities, including all victims brought into the Morgue. Assign a number to each body and to any separated body parts entering the morgue. Use that same number on all their documentation. Use these three tools to track the identification of victims.

- The *Morgue Tracking Form* is the overall summary tool used to document all bodies and activities within the Morgue.
- The *Wrist/Ankle Tag* is immediately attached to the wrist or ankle of the deceased as they are brought into the Morgue. We do not write on the bodies, but write their assigned number on the wrist or ankle tag to accurately link the assigned number with that body.
- An individual *Victim Identification Form* is filled out for each body or body part brought into the Morgue. It provides a place to document much more detailed information about each person.

Gate Keepers: The Morgue Team members working in the Receiving and Documenting Area will also serve as the Gate Keepers. Do not allow the media or general public into the morgue. Other than the Morgue Team, the only people coming into the Morgue should be the rescue teams bringing victims, those coming in for arranged viewings or for identification, and those moving bodies for burial.

Staging & Supply Area: The Staging & Supply Area is used by the Morgue workers to store their supplies, take care of sanitation needs, and have a general area in which to perform Morgue operations.

In the Staging & Supply Area you will need:

- **Personal Protective Equipment (PPE)** such as exam gloves, masks, goggles and some type of plastic infection control gowns for Morgue workers to wear;
- A **Sanitation Station** with supplies such as buckets, bottled water, soap, hand sanitizer, hand wipes, tissues, and wash cloths; and garbage cans & liners to dispose of waste.
- You will also need a **Storage Locker** for personal belongings, which we will discuss later.

Body Storage Areas: In the Body Storage Areas, designate several places for body storage. Bodies should be placed on their backs and lay side-by-side. Do not stack them on top of each other. If feasible, leave room to walk and work between each position. You may considering making separate sections for male and female victims. This could reduce the number of bodies that will need to be viewed in order to identify someone. Adjust these positions as needed based on the number of victims taken in.

Prepare each wrapping stations in advance by laying out:

- a sturdy sheet or blanket, which will be used to transport them after they are wrapped;
- 6 strips of fabric or binding spread out over the blanket, which will be used to secure the wrapping;
- 2 contractor bags, each bag cut open part way down the middle and overlapping each other; (this is an alternative to body bags which we assume won't be readily available) and,
- a 4' x 6' piece of visqueen placed inside the contractor bags which will help to contain bodily fluids.

Each position will also have a *Victim Identification Form*, a *Wrist/Ankle Tag* and a clear plastic bag for personal belongings.

BODY PROCESSING

Handling the Deceased: Ideally, the deceased should only be handled three times. 1) First when they are moved from the accident site to the Morgue, 2) Next when they are received and wrapped in the Morgue, and 3) Finally when they are moved from the Morgue into the cold storage or burial plot.

Safety & Hygiene: The Morgue Team will be exposed to bodily fluids and should wear personal protective equipment (medical gloves, mask, goggles and a plastic infection-control gown) while handling remains. They will also be exposed to unpleasant sights and scents and will have to develop their individual coping mechanisms. Follow standard CERT hygiene procedures to help prevent/reduce the risk of exposure to diseases spread by body fluids. After handling a body, immediately dispose of all items that have come in contact with the victim (gloves, towels,

etc.). Tip: CERTs are taught to improvise and use whatever resources they have available to accomplish their tasks. If plastic infection control gowns are not available, you may consider using a plastic garbage bag or rain poncho to provide a barrier between your clothing and bodily fluids.

Confirm Death Status: When the body is brought into the Morgue, direct them to be placed onto a prepared wrapping station. Confirm that the body is tagged appropriately (black) and is actually dead. Follow CERT protocols to attempt to open their airway using the ‘head-tilt, chin-lift’ method. Check for breathing – look, listen & feel. If no breaths, try one more time; if still no breaths, consider them dead. You may notice that their hands and feet have grown cold and their skin may be discolored or turn blue or purple. If a health-care professional or first responder is available, you may enlist them to make a somewhat official “death pronouncement”.

Assign a Number: Using the *Morgue Tracking Form*, assign a number (001, 002, 003, etc.) to each body and to any separated body parts entering the morgue. Use that same number on all their documentation. Do not write on the body; write their assigned number (from the *Morgue Tracking Form*) on a *Wrist or Ankle Tag* to accurately link the assigned number with that body. Immediately attach the tag to their wrist or ankle.

Victim Identification: Fill out a *Victim Identification Form* for each body or body part. Work to identify each body as best as possible and document carefully. This is very important since bodies will start decomposing within 12 hours without refrigeration. Leave clothes on the victim. Assuming the death is from a natural disaster and not due to a potential crime scene, carefully wash any blood or dirt off their face if feasible. This may 1) assist with body identification; 2) allow facial features to be sufficiently represented in photographs; and 3) it may help reduce trauma when family members come to view their loved one. Photograph the facial remains and any obvious identifying marks such as birthmarks or tattoos. If a full frontal view is not permissible due to facial damage, then attempt a side profile. Include the Victim Identification Number in the pictures.

Wrapping: Wrap the deceased in a mummy-like fashion. This will help to contain the bodily fluids and keep them out the surrounding soils and ground water if they are buried. First fold the foot “flaps” upwards, overlapping them and holding them in position with some duct tape. Then, fold the remaining “flaps” over the facial area. This will provide the protection of the remains, and also allow for an opening of the wrap for victim identification should that occur before storage efforts are undertaken. Using the 6 strips of fabric or binding under the contractor bags, securely bind up the entire “package” to contain the remains and minimize shifting of the remains when moved. Place a long piece of duct tape down the entire package and use a sharpie to write the victim ID number. If the remains must be buried in a trench, the tape with the number will show up as remains are recovered after the disaster.



Personal Belongings: Personal items, such as jewelry, wrist watches, cell phones, eye glasses, etc., should be carefully logged and secured in an effort to prevent potential theft. Designate a storage container or locker of some sort which will serve as a temporary vault in which all personal belongings will be secured after properly logged. Determine how this will be secured. In order to prevent accusations of theft, two people should work together to log and secure each item. Every individual item should be: Listed and described on the *Victim Identification Form*, Minimally cleaned if necessary, and Placed in a clear plastic bag marked with the exact same ID number assigned to the victim. Seal the top of the bag with sturdy tape. Place the bag in the secure storage locker. In the “Personal Belongings” section on the *Victim Identification Form*, indicate the name of the people logging the items. When loved ones request the personal belongings, don’t show them the bag of items, have them describe each item. This must be witnessed by two people. If items are properly identified by the loved ones, using the *Victim Identification Form*, document who claimed them, the relationship to the deceased, the date and time they were released and who witnessed them being removed.

Confidentiality: The Morgue Team must treat each body with dignity and respect, being sensitive to team members’ psychological needs as well. The Morgue facility must be kept secure and morgue activities kept confidential. Do not

tell anyone the number of bodies or the names of any of the dead. Use the *Morgue Tracking Form* to accurately document and communicate this information directly to the Morgue Branch Director who will share within his/her chain of command as needed. Follow these protocols carefully, as rumors and misinformation can spread quickly, causing undue sorrow and distress.

Viewings and Death Notifications: In the absence of a coroner or law enforcement representative, the Incident Commander will need to designate someone to be responsible for authorizing and arranging viewings and making death notifications. Families need to know the fate of their loved ones. Timely, honest and accurate information should be provided in a compassionate way. The need for families to view their loved ones should be honored as part of the grieving process. However, viewings should not occur in the Morgue while the Morgue is actively receiving victims. If possible, wait until the rescue operations are complete and the Morgue has been stabilized. The viewing should be arranged in a private area of the morgue, using partitions. Positive identification should be documented on the *Victim Identification Form*. Arrange for trained grief counselors (if available) to provide support to families.

BODY DISPOSITION

In a disaster situation, when medical professionals are not available to handle the timely disposition of bodies, here are three options to consider 1) Cold Storage, 2) Temporary Burial, and 3) Release to Family. Let's look at considerations for each of these options.

Cold Storage: Bodies should be kept refrigerated between 38°F and 42°F, which will help preserve them for 1 to 3 months. This is called "Cold Storage" and could be accomplished by using a refrigerated delivery truck or fixed refrigeration unit in a nearby business if power is available to maintain the required temperature. If using this type of "Cold Storage" option, after the body has been properly documented and wrapped, it can be moved to the Cold Storage Unit. Without cold storage, decomposition begins within 12 to 48 hours. After a large, *Cascadia Subduction Zone* earthquake and tsunami, this option probably won't be readily available; either due to the lack of the Cold Storage unit itself or due to the lack of power (electricity, fuel, etc.) to maintain the temperature.

Temporary Burial: If cold storage is not available, you may construct temporary ground burials since the temperature underground is lower than at the surface, providing natural refrigeration. Ideally, burial should be 4 ½ feet deep and at least 650 feet from drinking water sources. Consider making individual burials for small number of bodies and trench burials for larger numbers. If a trench burial is chosen, lay bodies in one layer only, not on top of each other and leave 1 ½ feet between bodies. Clearly mark each body. Mark and Map the Burial Site. Draw a map which includes a description of the location of the burial site, as well as the positioning of each package of remains by their identifying number as they lie in the trench. Keep photographic records if feasible. Marking the burial site is important for several reasons: It identifies the location of the graves; It provides a place for loved ones to gather to grieve; It discourages people from conducting other activities in that location; and It supports the recovery phase of the disaster when bodies need to be removed for professional processing and disposition.

Release to Family: If a family insists on taking their deceased loved one and handling the remains themselves, try to be compassionate and understanding. Provide information about burial considerations and offer assistance. Consult with the highest ranking government or emergency response official on site (if there are any) to determine conditions for the release of bodies to their families.

No matter which Body Disposition option is selected, be sure to document it on each Victim Identification Form.

DEMobilIZATION

Morgue Demobilization: When the morgue is no longer holding any bodies, and the likelihood of receiving bodies has passed, it should be closed, sanitized and returned to logistics for storage or another use. Keep in mind however, that in an extended disaster event, it is possible that additional deaths will occur over time due to exposure, lack of medications, infection, aftershocks, and possibly even bodies washing up from the tsunami. Because of this, you may determine it is best to leave the morgue in place rather than returning it for storage.

Team Demobilization: When the search and rescue operations are complete and the Morgue Unit has finished processing the victims and is not likely to receive any more victims, the Morgue Branch Director can gather with the Morgue Team away from the morgue and debrief. Have the team assess their physical needs, such as fatigue, hydration, and nutrition. Arrange to meet these needs. Remind the team of the importance of confidentiality. Affirm them for the significant work they accomplished. Due to the sensitive nature of morgue activities, take extra care to see to their emotional needs. Discuss self-care options. Arrange for daily debriefs and check-ins for psychological care.

MORGUE SUPPLY KIT

Now let's talk about putting together an actual "Morgue Kit" for your neighborhood in advance of a disaster so that you will have what you need to implement these procedures if needed. First, get a container to put everything in. You might as well purchase a lockable storage trunk of some sort and a lock, since this can double as the storage container for personal belongings. Everything you really need, except for a tent, should fit in a storage trunk like this just fine. Here's a list of contents for processing 10 victims.



- **1 Storage Trunk & Lock**
- **Morgue Set-up Supplies:** 1 Tent Canopy (10' x 20'), 1 Tarp (for floor of tent) 8 Partitions (shower curtains, sheets, or tarps), Rope & zip ties (to hang partitions), and Lighting
- **Wrapping Supplies:** 10 Blankets or sturdy sheets, 10 Clear Plastic Bags (for personal effects), 20 Contractor Bags (10 body bags), Roll of Visqueen, Duct tape, and strips of cloth for wrapping.
- **Documentation:** 2 Morgue Tracking Forms, 10 Victim Identification Forms, and 10 Wrist/Ankle Tags
- **Office Supplies:** Clipboards, Pens, Paper, Sharpie, Scissors, Masking Tape, etc.
- **Sanitation Supplies:** Kleenex, Hand sanitizer, hand wipes, wash cloths, Garbage Cans and Buckets, & plastic liners
- **PPE:** Medical Gloves, Masks, Goggles, Infection Control Gowns, Shower Caps
- **Water:** Bottled water for worker hydration and for sanitation



Now, as a note of caution. If your neighborhood is still having a hard time prioritizing putting together a Disaster Supply Cache of the basics such as Shelter, Water & Medical supplies, talking with them about building a Morgue Kit is probably not a good place to start. Many people are still in denial about the necessity of this and starting here could close them off from even wanting to prepare for the basics. I like to start groups with planning to cache the basics: Shelter, Water & Medical Supplies. Most people can get behind those items. Think about all the supplies recommended for the Morgue Kit. Every single item we just discussed for your Morgue Kit can easily be used in supporting the Shelter, Water and Medical needs of a neighborhood after a disaster. The paperwork is the only thing that is truly specific to Morgue Protocols.

CONCLUSION

After a large, *Cascadia Subduction Zone* earthquake and tsunami we are going to have to be flexible. Every situation is different. Like in all CERT operations, modify these procedures as needed based on the circumstances you find yourself in and the resources available at the time, and just do the best you can.

I hope the information in this training has empowered you by broadening your understanding about how you might handle the deceased during a catastrophic disaster. Applying these concepts will help you attempt to deal with the dead in an organized, safe, and respectful manner.

That wraps up this training on our CERT Morgue Protocols.

MORGUE TRACKING FORM

Morgue Location						
Community or Neighborhood Name/Description _____				City _____		State _____
Describe Location of Morgue: _____						
Date/Time of Morgue Mobilization:				Date/Time of Morgue Demobilization:		
Victim ID Number	Time In:	Sex (circle one)	Presumed Identity or Description	Approx. Age (circle one)	Time Out	Disposition
001		Male Female Unknown		Child: 0-11 Youth: 12-17 Adult: 18-64 Senior: 65+		<input type="checkbox"/> Cold Storage <input type="checkbox"/> Temporary Burial <input type="checkbox"/> Released to:
002		Male Female Unknown		Child: 0-11 Youth: 12-17 Adult: 18-64 Senior: 65+		<input type="checkbox"/> Cold Storage <input type="checkbox"/> Temporary Burial <input type="checkbox"/> Released to:
003		Male Female Unknown		Child: 0-11 Youth: 12-17 Adult: 18-64 Senior: 65+		<input type="checkbox"/> Cold Storage <input type="checkbox"/> Temporary Burial <input type="checkbox"/> Released to:
004		Male Female Unknown		Child: 0-11 Youth: 12-17 Adult: 18-64 Senior: 65+		<input type="checkbox"/> Cold Storage <input type="checkbox"/> Temporary Burial <input type="checkbox"/> Released to:
005		Male Female Unknown		Child: 0-11 Youth: 12-17 Adult: 18-64 Senior: 65+		<input type="checkbox"/> Cold Storage <input type="checkbox"/> Temporary Burial <input type="checkbox"/> Released to:
006		Male Female Unknown		Child: 0-11 Youth: 12-17 Adult: 18-64 Senior: 65+		<input type="checkbox"/> Cold Storage <input type="checkbox"/> Temporary Burial <input type="checkbox"/> Released to:
007		Male Female Unknown		Child: 0-11 Youth: 12-17 Adult: 18-64 Senior: 65+		<input type="checkbox"/> Cold Storage <input type="checkbox"/> Temporary Burial <input type="checkbox"/> Released to:
008		Male Female Unknown		Child: 0-11 Youth: 12-17 Adult: 18-64 Senior: 65+		<input type="checkbox"/> Cold Storage <input type="checkbox"/> Temporary Burial <input type="checkbox"/> Released to:
009		Male Female Unknown		Child: 0-11 Youth: 12-17 Adult: 18-64 Senior: 65+		<input type="checkbox"/> Cold Storage <input type="checkbox"/> Temporary Burial <input type="checkbox"/> Released to:
010		Male Female Unknown		Child: 0-11 Youth: 12-17 Adult: 18-64 Senior: 65+		<input type="checkbox"/> Cold Storage <input type="checkbox"/> Temporary Burial <input type="checkbox"/> Released to:
Notes:						

VICTIM IDENTIFICATION FORM

IDENTITY OF VICTIM			
Assign a Tracking Number & Attach Wristband: # _____ <small>(001, 002, 003, 004, etc.)</small>	Received Time: _____ AM or PM Date: _____ <small>(circle one)</small>	<input type="checkbox"/> Body	<input type="checkbox"/> Body Part (describe)
Name of Victim:		Possible Identity: (explain reasons for hypothesis)	
Death Confirmation: <input type="checkbox"/> Search & Rescue Team: Completed "Head-tilt, Chin-lift" procedure 2 times <input type="checkbox"/> Morgue Team: Completed "Head-tilt, Chin-lift" procedure 2 times <input type="checkbox"/> Health Care Professional Confirmation (if available): No pulse, no breaths Name _____			
Identity Confirmed by: <input type="checkbox"/> Family _____ <input type="checkbox"/> Photo _____ <input type="checkbox"/> Friend/Neighbor _____			
<input type="checkbox"/> Male <input type="checkbox"/> Female	Approx. Age:	Approx. Height:	Hair Color:
		Approx. Weight:	Hair Length:
Description of Clothing:			
Description of Injuries:			
Describe where this body (body part) was found:			

PERSONAL BELONGINGS: Document all Personal Belongings: (jewelry, wrist watch, eye glasses, cell phone, etc.)				
Name of people logging personal belongings: _____ & _____			Released?	
Type of Item	1.	Description	1.	<input type="checkbox"/> Yes
	2.		2.	<input type="checkbox"/> Yes
	3.		3.	<input type="checkbox"/> Yes
	4.		4.	<input type="checkbox"/> Yes
	5.		5.	<input type="checkbox"/> Yes
Personal Items		Name(s):		Date:
Released to:		Relationship to Victim:		
Witnessed by: _____ & _____				

ADDITIONAL ACTIONS TAKEN			
Viewed by	Names: Relationship to Victim: Authorized by:		Date:
Death Notification	Who was Notified? Relationship to Victim: Who made the Notification?		Date:
Body Disposition	<input type="checkbox"/> Cold Storage <input type="checkbox"/> Temporary Burial <input type="checkbox"/> Released to:	Describe Location: Relationship to Deceased:	Date:
	Authorized by:		