
UNIT 5. ESTABLISHING THE MORGUE

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Unit 5. Establishing the Morgue

Unit Objectives

At the end of this unit, you should be able to:

- Identify sites within your jurisdiction that are suitable for use as a morgue.
 - Describe the work station requirements for a morgue.
 - Describe special morgue requirements.
 - Describe the methods used to identify remains.
-

Scope

The scope of this unit will include:

- Introduction and Unit Overview.
 - Establishing the Morgue.
 - Unit Summary.
-

Time Plan

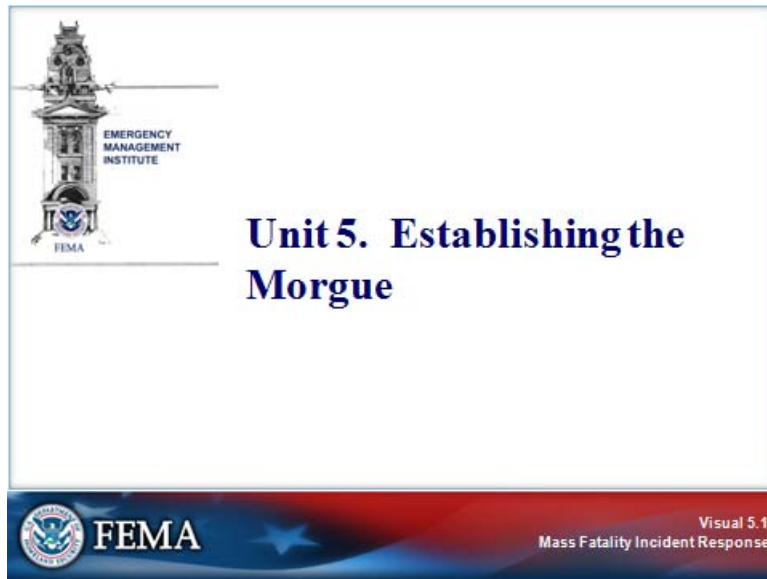
The suggested time plan for this unit is shown below.

Topic	Time
Introduction and Unit Overview	5 minutes
Establishing the Morgue	110 minutes
Unit Summary	5 minutes
Total Time	2 hours

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INTRODUCTION AND UNIT OVERVIEW

Visual 5.1



Notes:

Morgue operations are among the most critical—and sensitive—of all operations at a mass fatalities incident.

This unit will cover morgue operations, including:

- Selecting the morgue site.
- Establishing the morgue, including supplies and equipment.
- Staffing the morgue with appropriate mortuary and forensic personnel.
- Forensic operations to complete victim identification.


INTRODUCTION AND UNIT OVERVIEW

Unit Objectives

Visual 5.2

Unit Objectives

- Identify sites within their jurisdictions that are suitable for use as an incident morgue.
- Describe the work station requirements for an incident morgue.
- Describe additional morgue requirements.
- Determine when temporary morgues are required and how many might be required.
- Determine the personnel qualifications required to conduct morgue operations.



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Visual 5.2
Mass Fatality Incident Response

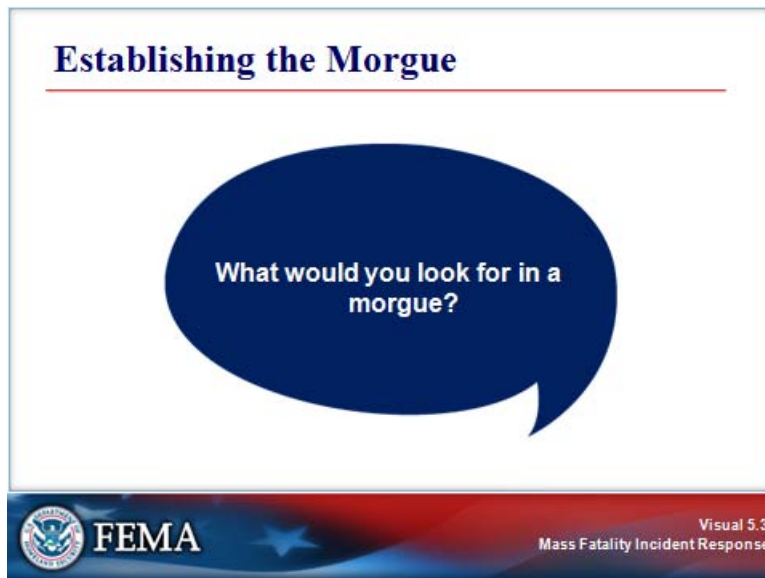
Notes:

At the end of this unit, you should be able to:

- Identify sites within your jurisdiction that are suitable for use as an incident morgue.
- Describe the work station requirements for an incident morgue.
- Describe additional morgue requirements.
- Determine when temporary morgues are required and how many might be required.
- Determine the personnel qualifications required to conduct morgue operations.

ESTABLISHING THE MORGUE

Visual 5.3



Notes:

In a mass fatalities incident, the local morgue at the medical examiner's/coroner's office, will most likely be overwhelmed. Additionally, there will probably be a need to establish a morgue that not only can handle a large number of remains, but is located close to the incident scene.

Think about the needs of a morgue for a mass fatalities incident. What would you look for in a morgue?

ESTABLISHING THE MORGUE

Visual 5.4

Incident Morgue Requirements

- Convenient but secure
- Adequate size
- Infrastructure for communications, lighting, HVAC, restrooms, water, drainage, and other support needs
- Accessible



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Visual 5.4
Mass Fatality Incident Response

Notes:

An incident morgue must:

- Be convenient to the scene, but in a secure location.
- Be of adequate size to comfortably accommodate the required number of morgue personnel, supplies, and equipment.
- Have the infrastructure for communications; lighting; heating, ventilation, and air conditioning (HVAC); restrooms; water; drainage; and other support for morgue personnel.
- Be easily accessible.


ESTABLISHING THE MORGUE

Visual 5.5

Additional Morgue Requirements

- Security and storage for personal effects
- Removed from public view
- Nonporous or disposable flooring
- Office space
- Tractor trailer/forklift Accessible

Typical size is 8,000-10,000 square feet.



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Visual 5.5
Mass Fatality Incident Response

Notes:

An incident morgue must:

- Provide security and storage for personal effects.
- Be removed from public view.
- Have nonporous flooring or disposable flooring.
- Allow for sufficient office space.
- Be tractor trailer/fork lift accessible.

The size of the typical morgue is 8,000 to 10,000 square feet.

ESTABLISHING THE MORGUE

Visual 5.6



Notes:

Given the requirements for a temporary morgue, what types of buildings are best suited for morgue operations?

ESTABLISHING THE MORGUE

Visual 5.7



Morgue Facilities

Best in:

- Abandoned warehouses
- Armories
- Aircraft hangars

NEVER in:

- Schools or hospitals
- Churches
- Structures with wood floors

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Visual 5.7
Mass Fatality Incident Response

The infographic is titled "Morgue Facilities" and is set against a white background with a red horizontal line. It features two photographs: one of a large, dilapidated industrial building with blue barrels in front, and another of a modern, multi-story brick building. The text is organized into two columns, with "Best in:" and "NEVER in:" sections. The FEMA logo is at the bottom left, and the title "Visual 5.7 Mass Fatality Incident Response" is at the bottom right.

Notes:

The type and size of the incident will determine where the morgue is located. Some large cities, such as New York and Chicago, have a high morgue capacity and enough staffing to ensure throughput for most incidents. For very large incidents, morgues could be located in:

- Abandoned warehouses.
- Armories.
- Aircraft hangars.

Note that:

- Schools, public facilities, and hospitals should never be used as temporary morgues.
- Buildings and rooms with wood floors should not be used as temporary morgues.

If none of these types of structures is available, incident morgues can also be set up in large tents.

Floors in all morgues should be nonporous or disposable.

ESTABLISHING THE MORGUE

Regardless of location, infrastructure required in all morgue facilities is listed below:

- Heating Ventilation/Air Conditioning
- Potable water
- Adequate drainage
- Lighting (either permanent or portable)
- Communications system(s)

The facility also must be accessible to ambulances, hearses, box trucks, and semitrucks.

A mass fatality morgue will typically be at least 8,000 to 10,000 square feet.

ESTABLISHING THE MORGUE

Visual 5.8

Additional Morgue Requirements

- Restrooms
- Rest and debriefing areas
- Refreshment/lunch area
- Office space



 **FEMA**  Visual 5.8
Mass Fatality Incident Response

Notes:

An incident morgue must have adequate:

- Restrooms.
- Rest and debriefing area.
- Refreshment area.

The office space at the morgue site for the Medical Examiner/Coroner (ME/C) should be established away from the morgue operational area.

ESTABLISHING THE MORGUE

Supplying and Equipping the Morgue

Visual 5.9



Notes:

Who can suggest what supplies should be stocked at each morgue site?

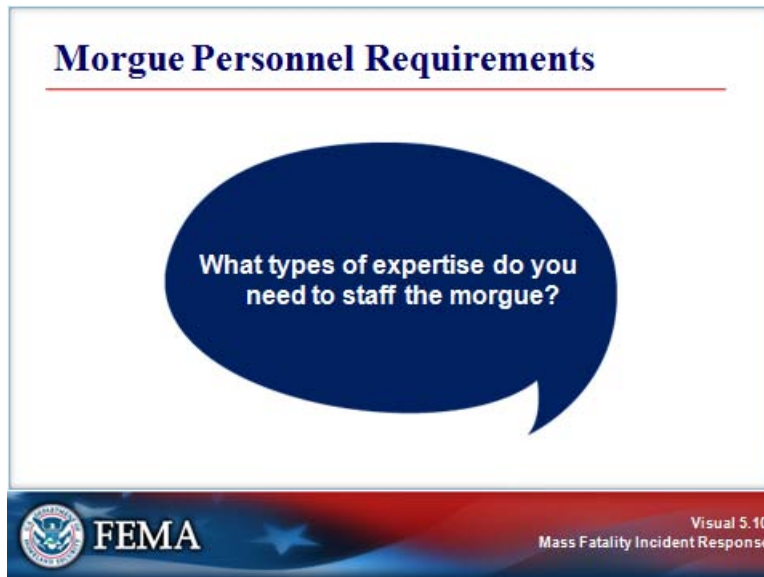
ESTABLISHING THE MORGUE

Supplies Needed for Morgue Sites	
Personnel Equipment	
Personnel reporting for morgue duty should be provided with the following supplies listed below.	
<ul style="list-style-type: none"> • Personal protective equipment • Fresh water • Clothing appropriate to the climate at the incident site 	
Administrative Supplies	
<ul style="list-style-type: none"> • Telephone (landline and cellular) • Fax machines and scanners (e-ray capable) • Photocopy machine • Wireless LAN • Computers and printers 	<ul style="list-style-type: none"> • Morgue forms • Distribution control chart • File folders • Desks, tables, and chairs • Pens, pencils, paper
Morgue Setup/Support	
<ul style="list-style-type: none"> • Partitions and supports • Disposable drop sheets • Information resources (e.g., morgue operations) 	<ul style="list-style-type: none"> • Electrical distribution equipment • Generator(s) • Uninterruptible power supply • Surge suppressors • Plumbing
Instruments	
<ul style="list-style-type: none"> • Autopsy and postmortem examination equipment as needed by forensic personnel 	<ul style="list-style-type: none"> • X-ray equipment (full-body and dental) and supplies
Forensic Equipment	
<ul style="list-style-type: none"> • Pathological Examination • Scalpels • Scale • Examination tables • Stryker (bone) saw • Anthropological equipment (scalpels, scissors, pruner, brushes, forceps, hemostats, magnifying glasses) 	<ul style="list-style-type: none"> • Fingerprint equipment • DNA equipment • DNA specimen containers • Bleach • Dental equipment • Embalming equipment and supplies (embalming machines, aspirators, hemostats, head blocks, scalpels, syringes, sutures, eye caps, trocar buttons)
Miscellaneous Supplies and Equipment	
<ul style="list-style-type: none"> • Removal vehicles • Body and personal effects bags • Stretchers, litters, and cots • Camera(s) and batteries 	<ul style="list-style-type: none"> • Refrigerator trucks • Sealer for pouches • Paperwork packets

ESTABLISHING THE MORGUE

Staffing the Morgue

Visual 5.10



Notes:

What types of expertise do you need to staff the morgue?

ESTABLISHING THE MORGUE

Staffing the Morgue

Visual 5.11

Morgue Personnel Requirements

- Remains handlers
- Trackers
- Pathologists
- Anthropologists
- Dentists
- Records librarians
- Radiography technicians
- Photographers



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Visual 5.11
Mass Fatality Incident Response

Notes:

Note the following types of expertise:

- Remains handlers
- Trackers
- Pathologists
- Anthropologists
- Dentists
- Records librarians
- Radiography technicians
- Photographers

ESTABLISHING THE MORGUE

Staffing the Morgue

Visual 5.12

Morgue Personnel Requirements

- Personal effects technicians
- DNA technicians
- Fingerprint experts
- Supply clerk
- Security personnel
- Morgue safety personnel
- Morgue medical personnel



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Visual 5.12
Mass Fatality Incident Response

Notes:

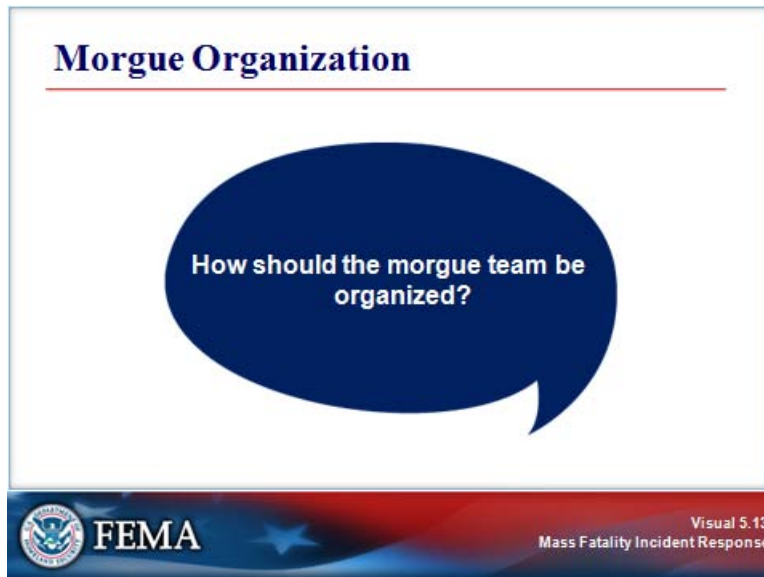
Note the types of expertise needed at the morgue:

- Personal effects technicians
- DNA technicians
- Fingerprint experts
- Supply clerk
- Security personnel
- Morgue safety personnel
- Morgue medical personnel

ESTABLISHING THE MORGUE

Morgue Organization

Visual 5.13



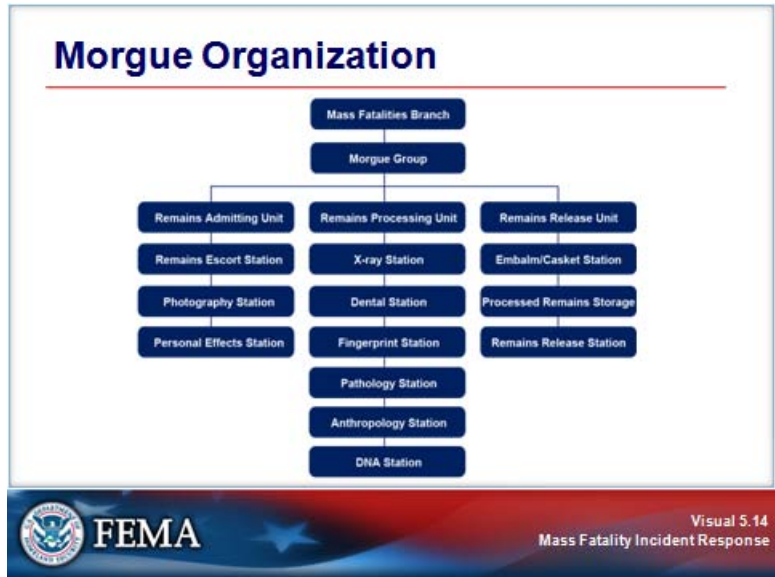
Notes:

How should the morgue team be organized?

ESTABLISHING THE MORGUE

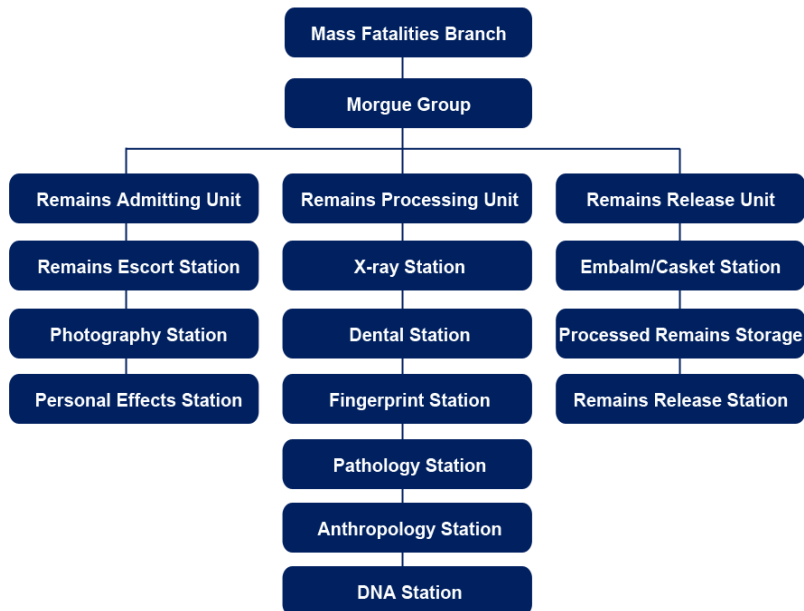
Morgue Organization

Visual 5.14



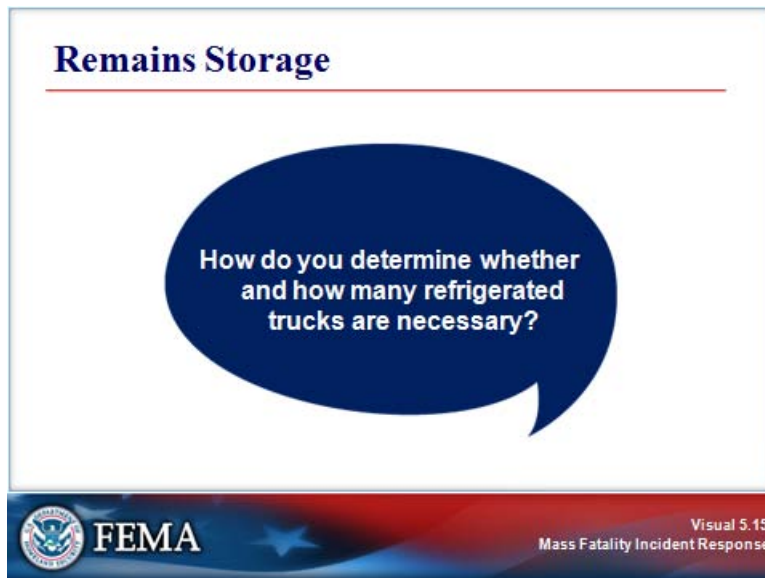
Notes:

Note that the morgue operation does not need to be organized as shown in the visual, but using this organization can ensure that all required positions are staffed and associated with the appropriate morgue unit.



ESTABLISHING THE MORGUE

Visual 5.15



Notes:

It is critical to develop morgue policies for mass fatalities incidents and to ensure that all who work in the morgue have been thoroughly briefed on the policies.

The next topic will include:

- How to set up the morgue to facilitate forensic examination, identification of remains, and documentation.
- Security requirements.
- Health and safety concerns for personnel.

How do you determine whether and how many refrigerated trucks are necessary?

ESTABLISHING THE MORGUE

Visual 5.16



Notes:

The “rule of thumb” for needing refrigerated trucks is one 40-foot truck for each 20 to 25 sets of remains, provided that the remains have not been fragmented. When dealing with fragmented remains, it may be possible to place additional remains in a single truck, while leaving an aisle down the middle for morgue workers to move freely.

Trucks should be designated for storing processed and unprocessed remains.

ESTABLISHING THE MORGUE

Setting Up the Morgue

Visual 5.17



Notes:

Experience has shown that the physical setup of the morgue can facilitate efficient operations.

In a mass fatalities incident, there are various stations that each set of remains must pass through. Setting up the morgue in this order facilitates processing the remains.

- Triage: Station where remains are sorted as to their potential for identification.
- Receiving, Photography, and Personal Effects: Admitting is the station where the remains are entered into the morgue database. The remains are assigned a number and photographed. All items identified as belonging to the victim (and items that family members bring if DNA analysis is required) should be catalogued at this station.
- Radiology: At the radiology station, full-body x-rays are completed and injuries and foreign objects that may be inside the body are noted.
- Forensic anthropology examination: Skeletal remains are examined at this station.

ESTABLISHING THE MORGUE

Setting Up the Morgue

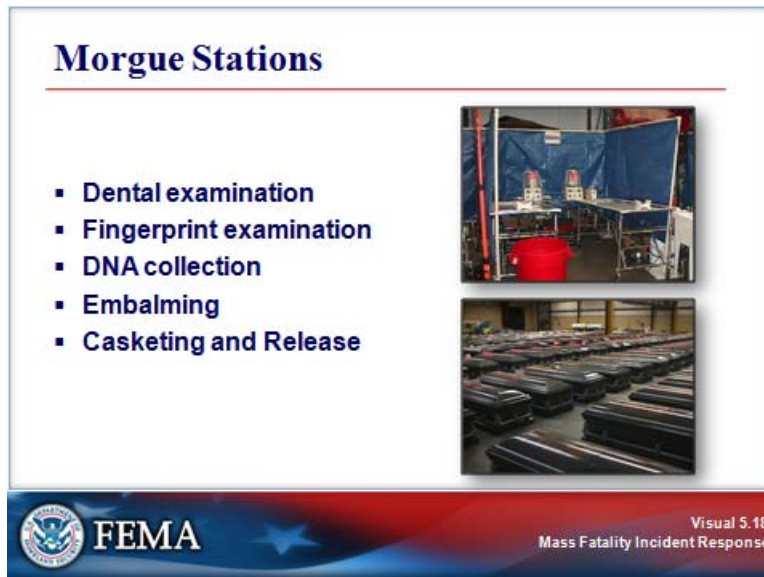
- Forensic Pathological Examination/Autopsy: Autopsies that are required are completed at the autopsy station.

In all circumstances, the Coroner or Medical Examiner is responsible for determining the cause and manner of death. Autopsies may not be required on all bodies. In transportation-related incidents that are under the jurisdiction of NTSB, NTSB requires that pilots, drivers, and/or conductors be autopsied and that a special toxicology kit, which is supplied by NTSB, is completed.

ESTABLISHING THE MORGUE

Setting Up the Morgue

Visual 5.18



Notes:

Note the various morgue stations.

- Dental examination: At this station, dental x-rays and dental charts from remains are completed.
- Fingerprint examination: At this station, victims' fingerprints are taken.
- DNA Collection: DNA is gathered for use in identification at this station. Because of the time and expense involved in DNA testing, DNA should be used as a last resort only.
- Embalming: The embalming station is where identified remains are preserved and protected from decay.
- Casketing and Release: Following embalming, identified remains are placed in a casket and released to a mortuary.

ESTABLISHING THE MORGUE

Identification of Remains

Notes:

Identification of remains is a legal requirement that falls under the responsibility of the Medical Examiner/Coroner. Depending on the condition of the remains and the availability of antemortem (before death) records, identification can take time. Identification can be complex and time consuming.

Note the need to manage the families' expectations. Explain that morgue personnel are doing their best to identify remains accurately. That process takes time but also prevents mistakes in identification.

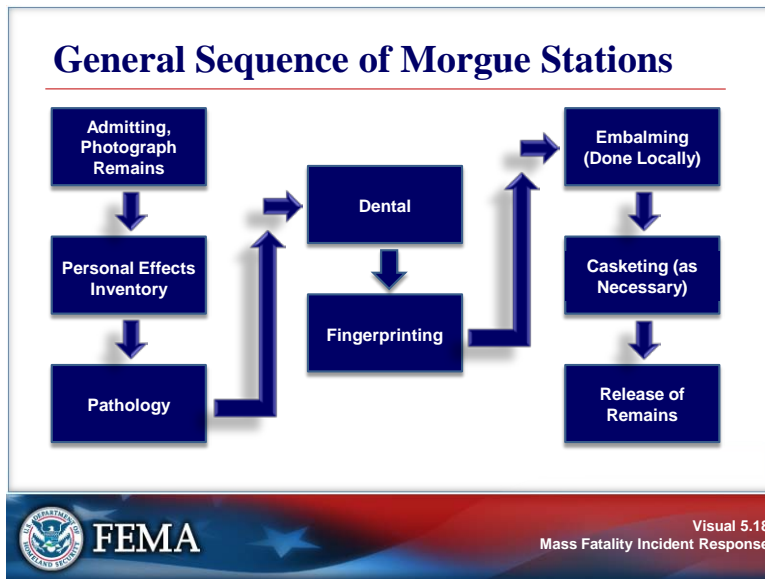
There are several ways to identify victims (e.g., through dental records, identification of tattoos, fingerprints, birthmarks, and other bodily features, DNA). Identification requires the involvement of family members to obtain antemortem information.

Use forensic evidence for identification rather than relying on personal effects (such as wallets, rings, etc) that may be found with the remains.

ESTABLISHING THE MORGUE

Setting Up the Morgue

Visual 5.19



Notes:

This visual shows the general sequence of morgue stations. The order shown in the visual is certainly not mandatory but it has been found to work well.


ESTABLISHING THE MORGUE


Managing Victim Data

Visual 5.20

Managing Victim Data

- A database is recommended for managing victim data on large incidents.
- Data that must be maintained includes:
 - Number of remains.
 - Names of the victims that have been identified.
 - Means of identification.



 **FEMA** Visual 5.19
Mass Fatality Incident Response

Notes:

In large incidents, a computer database program will be needed to manage victim data.

- Number of remains.
- Names of the victims that have been identified.
- Means of identification.

When managing victim data, it is critical to:

- Catalog all victim items and those items brought to the morgue or Family Assistance Center by family members. Items such as toothbrushes, hairbrushes, or pieces of clothing may be needed to collect DNA from the deceased.
- Provide all data collected to the Medical Examiner or Coroner.
- Maintain security of the data and the computers on which the data are stored. All computers and data are for internal use only and no computer should have outside security. Additionally, policies must be established governing how thumb drives and CDs may be used without jeopardizing security.

Does anyone have any questions about establishing the incident morgue?

ESTABLISHING THE MORGUE


Visual 5.21



Morgue Security

Managing Morgue Security

Security at morgue sites is imperative.

- The incident will cause intense interest from the media and public.
- A security service should be assigned 24/7.
- All morgue personnel should have ID badges.
- The badges should be checked on every entry.



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Visual 5.20
Mass Fatality Incident Response

Notes:

Security is imperative at morgue operations. The incident itself will cause intense interest from the media and the public—and morgue operations are a part of the incident.

A security service be assigned to all morgues on a 24/7 basis. Ensure that all personnel who are authorized entry have (and wear) badges at all times—and that the security guards check identification for everyone entering the morgue.

UNIT SUMMARY

Visual 5.22



Notes:

Morgue operations can be facilitated by:

- Establishing a morgue organization with clear lines of authority within the Operations Section.
- Locating temporary morgues near the incident site and within close proximity of each other, but out of the hazard area and out of the line of sight of the incident and the Family Assistance Center.
- Organizing the morgue for efficient processing.

Unit 6 will cover the Family Assistance Support Operations.