Medical Examiner and Forensic Sciences Resources

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Search and Rescue

- Pandemic
  - Local Law Enforcement
    - Responding to 911 calls
    - Responding to welfare checks
  - Health care facility
    - Ambulance & drive up
    - Admissions
Search and Rescue

- Mass Fatality
  - First responders
    - Law enforcement
    - Fire department
    - EMS
  - State resources
    - Mobile ME & ADFS
    - SMORT
    - AL DPS
    - National Guard?

- Out of State resources
  - DMORT
  - Mutual Aid States
  - Private organizations
Search and Rescue

- Logistical concerns
  - Manpower availability
  - Equipment & supplies
  - Scene location & jurisdiction
  - Scene safety & security
  - Weather
Pronouncement of Death

- Physician vs. Medical Examiner
  - Determination vs. Pronouncement
- Time of death vs. time pronounced
  - Date/time found vs. date/time of death
  - Time of incident vs. time pronounced
- ?Survival time?
Trained Field Teams

- Mass fatality event
  - Pandemic events?
- Tasks of trained field teams
  - Documentation of decedent location - GPS
  - Tagging of decedents
  - Initial processing of decedents
  - Prepare for storage and transport
  - Trained in the various processing procedures and proper chain of custody methods
HR location by GPS
Tagging of Decedents

- Permanent tag
  - Tyvek - puncture-proof, water-proof, mildew resistant and not affected by most chemicals.

- Indelible marker

- Unique simple numbering system
  - HR - #
  - Can add additional info – team letter, year, county

- Attachment method
  - Zip tie
SMORT

- State Mortuary Response Team
  - Main component of field teams
- Activated whenever a catastrophic event results in mass fatalities and requested by local EMA.
Trained Field Teams

SMORT

- Assist Mobile Count Medical Examiner and ADFS in decedent recovery at the scene, mobile work site and autopsy site duties
- Actual duties will vary depending on the nature of the event, the necessity of decontamination, number and condition of the decedents, and the distance between the scene, mobile work site, and autopsy site
Trained Field Teams

SMORT team members will be trained in the necessary techniques to perform all potential duties.

- Certified by multiple agencies in various aspects of their expected duties.
- ADFS will assist with training.
Augmenting Field Team Staff

- Numbers needed?
  - Nature of event
  - Size of event
  - Location of event
  - Weather

- Sufficient to allow rotation of staff

- Law Enforcement, Funeral Home staff, and Emergency Response Personnel
Augmenting Field Team Staff

ADRFS
- Assists Mobile County Medical Examiner
- Pathologists, Death Investigators, Autopsy Technicians

Overwhelming event
- DMORT will be requested if the need is greater than SMORT & ADFS can manage.
Mobile Work Sites

- Mass fatality events
  - Pandemic events?
- Initial processing of decedents after recovery and scene documentation
- Extent of the initial processing
  - Necessity of decontamination
  - Number and condition of the decedents
  - Size of trained field team +/- assistance
Mobile Work Sites

- The initial process may include:
  - Photography
  - Documentation of clothing and personal effects
  - Fingerprinting
  - Evidence processing and documentation
  - Possibly DNA card collection
Mobile Work Sites

➤ The decedent’s unique identifying number will be documented and recorded on all items collected from the decedent.

➤ Place in body pouches for storage and transport to Mobile County Medical Examiner Facility or one of the other ADFS Regional Morgues
Mobile Work Sites

Storage issues

- Without cold storage decomposition advances rapidly
- Within 12 to 48 hours in hot climates, decomposition will be too advanced to allow facial recognition
- Cold storage slows the rate of decomposition and preserves the body for identification.
- Refrigeration between 2°C and 4°C is the best option.
Mobile Work Sites

- Logistical issues
  - Time delays
    - Teams arriving at scene
    - Beginning of recovery and processing
  - Sufficient amount of necessary supplies
  - Decedent storage at scene
  - Transportation of decedents to autopsy site
  - Food

- Overwhelming event - DMORT
Body Removal

- Pandemic
  - EMS
  - Funeral homes
  - Private transport services
  - ADFS?
  - ADPH?
  - DMORT?
  - Mutual Aid States?
  - Private industry?

- Mass fatality
  - SMORT
  - ADFS
  - Funeral homes
  - ADPH
  - DMORT
  - Mutual Aid States
  - Private industry?
Body Removal

- Logistical concerns
  - Priority use of resources
  - Manpower availability
  - Equipment & supplies
  - Scene location
  - Scene safety & security
  - Weather
ADFS has three fixed morgue sites with various capabilities that will manage up to a maximum of 30 decedents before outside assistance will be necessary.

- **Huntsville**
  - Storage – 4 decedents
  - Autopsy – 1 case

- **Montgomery**
  - Storage – 25 decedents
  - Autopsy – 5 cases

- **Mobile**
  - Storage – 15 decedents
  - Autopsy – 5 cases
HV = Huntsville Territory
MM = Montgomery Medical Territory
MB = Mobile Territory
State Morgue – Autopsy Sites

Logistical issues

- Decedent storage
- Time delay in team member assembly
- Time delay in receiving antemortem decedent information
- Identification process
- Release of decedents
- Food
State Morgue – Autopsy Sites

- Assistance – SMORT may be requested to provide assistance at the morgue
  - Decedent handling
  - Photography
  - Evidence processing

- Overwhelming event
  - DMORT will be requested if the need is greater than SMORT & ADFS can manage.
Protection of Staff

➤ Pandemic event
  ➤ Gloves when touching decedent and contaminated items
  ➤ Mask and eye protection when potential to generate splashes or sprays of body fluids
  ➤ Wash hands after decedent contact
Protection of Staff

The recovery of bodies from confined, unventilated spaces should be approached with caution. After several days of decomposition, potentially hazardous toxic gases can build-up. Time should be allowed for fresh air to ventilate confined spaces.
Protection of Staff

Mass Fatality event

- Victims are normally killed by injury, drowning, or fire
- Victims are not likely to be sick with epidemic-causing infections (i.e., plague, cholera, typhoid, and anthrax)
- Few victims will have chronic blood infections (hepatitis or HIV), tuberculosis, or diarrheal disease
- Most infectious organisms do not survive beyond 48 hours in a dead body. An exception are HBV & HIV
Protection of Staff

Mass Fatality event

Field teams work in hazardous environments (e.g., collapsed buildings and debris) and may also be at risk of injury and tetanus.

Team members handling human remains have a risk through contact with blood and feces (bodies often leak feces after death) from the following:

- Hepatitis B and C, HIV, Tuberculosis, Diarrheal disease
Protection of Staff

Mass Fatality event

Anyone handling a decedent or evidence at the scene, mobile work site, or state morgue must wear the minimum protective gear at all times.

Protective gear for the scene and mobile work site to be provided by either State Emergency Management Agency &/or SMORT.
Protection of Staff

The minimum protective gear

- Disposable gloves
- Impervious plastic aprons or Tyvek
- Face &/or eye protection
- Shoe covers or impervious boots

Face masks are unnecessary, but should be provided when there is a potential to generate splashes or sprays of body fluids
Protection of Staff

- Additional protective gear will be directed by Emergency Response Personnel
- Logistical issues
  - Adequate amount of different sizes of protective gear at the scene, mobile site, and autopsy site
  - Proper training in wearing protective gear
  - Disposal of used protective gear
Investigation of Death

- Pandemic
  - Local Law Enforcement
  - Medical Examiner
- Sources
  - Family
  - Neighbors
  - Health care facilities
  - EMS

- Mass fatality
  - Local Law Enforcement
  - Medical Examiner
  - State/Federal agencies
    - DPS & ABI
    - FBI
    - NTSB
Documentation

- **Pandemic event**
  - Information will vary
    - Location, time of death/discovery, perimortem events, & medical treatment

- **Mass fatality event**
  - Event information will be the same
  - Agreed upon time of incident
  - Agreed upon time of death for all decedents that did not survive initial event
Documentation

- Field team will document the necessary decedent information at the scene with the assistance of first responders and Law Enforcement.
- Information will be forwarded to Mobile County Medical Examiner to complete the ADFS Report of Death Investigation Form (DFS-18).
The decedent’s unique identifying number will serve as reference point.

Antemortem information collected for identification will be assigned a unique identifying number (i.e. MP01).

Active spreadsheet to follow and ultimately link the decedent and missing person into one case file with unique case number.
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**Medical Records - X-Ray**

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Decedent Identification

Identifying
- Visual with supporting documentation
  - Photo ID, family, neighbors, law enforcement
- Photograph of identifying marks, scars, tattoos

Issues
- Available information
- Body condition
Body Identification

- Pandemic event
  - Identification will start with the local Law Enforcement.

- Mass fatality event
  - Method of identification of decedents will be determined by the Medical Examiner at the time of examination, both at the mobile work site and autopsy site.
Body Identification

Methods of identification used will include but not limited to:

- Fingerprint comparison
- Dental radiograph/chart comparison
- Boney radiography comparison
- DNA comparison

General body stature and personal effects used for preliminary identification
Body Identification

Local Law Enforcement will be required to obtain antemortem samples of for the comparison process:
- Fingerprints
- Dental records
- Radiographs
- Reference DNA sample
- Unique identifying number assigned
Body Identification

Process may begin at the mobile work site depending on the necessity of decontamination and number and condition of the decedents.

Process will include documenting clothing and personal effects, taking fingerprints, and identification photographs.

DNA samples may be taken.
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Body Identification

Process will be completed at the autopsy site

- Forensic Pathologists
- Forensic Scientists
- Forensic Odontologists
- Forensic Anthropologists
Body Identification

Logistical issue

Time frame from event to final identification is dependent on

- Recovery time
- Initial processing time
- Decedent examination time
- Receipt of antemortem comparison materials
- Time for actual identification process

Overwhelming event – DMORT
Protocols

Do you have one???

Can your daily procedures be modified?

Develop protocols for Pandemic & Mass fatality events

Need for outside assistance?
  
  When?
  
  What resources needed?

Source of assistance
Protocols

- Pandemic
  - Need to address capabilities and procedures for managing numerous deaths and loss of manpower over a prolonged period

- Mass fatality
  - Need to address capabilities and procedures for managing numerous deaths occurring in a single event
Conclusion

- Pandemic event
  - Local Law Enforcement
  - Medical Examiner

- Mass Fatality event
  - Trained Field Team – SMORT
    - Assisted by local personnel & Medical Examiner
  - Mobile work site
    - Initial processing of decedents
    - Extent determined by event
    - Storage of decedents
Conclusion

Mass Fatality event

State morgue/autopsy site
- Main work site for decedent examination and identification
- ADFS has three fixed sites with varied capability
- SMORT to assist

Staff protection
- Risk from environment and decedents
- Minimum gear to be augmented as needed
- Hand washing!
Conclusion

- Mass Fatality event
  - Documentation
    - Local Law Enforcement and Medical Examiner
    - Decedent information vs. missing person information
  - Identification
    - Role of local Law Enforcement
    - Mobile site vs. Autopsy site