

Victim ID Concerns of Family Members



- Search and recovery of remains
- Condition of remains
- Identification process
 - Length of time
 - Methods (esp. DNA)
- Antemortem data collection
- Will make decisions about
 - Release of remains
 - Receiving information on identification
 - Common/unidentified tissue

Victim Identification

- Medical Examiner/Coroner responsibility
- Critical task
 - Legal
 - Humanitarian/religious
- Local and federal response
 - NTSB coordinates response
- Keep families informed

Local and Federal Agencies

Local/State

Medical Examiner/Coroner
Forensic personnel
Law Enforcement
Emergency Mgt Agency

NTSB: Coordinates agencies and resources

FBI



Evidence Response Team
Disaster Squad
Office for Victim Assistance

DOD



OAFME/AFDIL
Joint POW/MIA Accounting Command

DHS



FEMA:
NDMS/DMORT
US Coast Guard:
Mass rescue

Disaster Mortuary Operational Response Teams



DMORT Activations

Event	Fatalities
Cemetery flood, MO	769
Cemetery flood, GA	405
Murrah building bombing, OK	168
Hurricane Marilyn, USVI	11
United Express 5925, IL	14
Comair 3272, MI	29
Korean Air 801, Guam	225
Floods, TX	12
Amtrak crash, IL	11
Tornadoes, OK	47
Cemetery flood, NC	230
Egyptair 990, RI	219
Alaska Air 261, CA	88
Executive Air, PA	19
World Trade Center, NY	~2800
American 587	265
Crematory event, GA	339
USAirways 5481, NC	21
Shuttle Columbia	7
Nightclub fire, RI	97
Corporate Airlines 5596, MO	13
Hurricane Katrina	~1500





DMORT
Family Assistance
Center Team

DMORT Portable Morgue Unit



antemortem
information

postmortem
information



comparison
(unique biological characteristics)



identification

Positive Identification

- Dental
- Fingerprint
- Medical/radiographic
- DNA

Postmortem

- Prosthetic devices
- Dental remains
- Fingers/ridge skin
- Tissue to analyze for DNA
- Any unique biological or medical details

Antemortem

- Radiographs
- DNA reference samples
 - Direct
 - Family
- Dental information
- Fingerprint information
- Other unique biological or medical information

Recent Accident DNA Identification Data

	<i>Victims</i>	<i>Remains</i>	<i>DNA samples (%)</i>	<i>Family reference samples</i>	<i>Type of DNA</i>	<i>DNA Cost</i>
USAir 427 <small>(1994)</small>	132	1771	2	1	NucDNA	\$3000
Valujet 592 <small>(1996)</small>	110	4282	0	0		--
TWA 800 <small>(1996)</small>	230	1000	240 (24%)	16	Nuc and mtDNA	\$60,000
Comair 3272 <small>(1997)</small>	29	NA	0	0		--
Korean Air 801 <small>(1997)</small>	228	300 bags	Korea- 187	49	Nuc and mtDNA	Unknown
			AFDIL-234	23		
Swissair 111 <small>(1998)</small>	229	2500	1244 (50%)	--		
Egyptair 990 <small>(1999)</small>	217	6000	1653 (28%)	385		\$856,000
Alaska Air 261 <small>(2000)</small>	88	950	730 (79%)	174	Nuc and mtDNA	\$255,500
Executive Air <small>(2000)</small>	19	25	0	--		--
American 77 and Pentagon <small>(2001)</small>	188	2000	938 (47%)	372	Nuc and mtDNA	\$659,000
United 93 <small>(2001)</small>	44	1300	592 (45%)	164	Nuc and mtDNA	\$334,000
American 587 <small>(2001)</small>	265	2077	2072 (100%)	--		Unknown
USAirways 5481 <small>(2002)</small>	21	43	25 (58%)	18	Nuc DNA	\$12,500
Corporate Airlines 5966 <small>(2004)</small>	13	30	25 (83%)	16	Nuc DNA	\$41,000*

* 2004 cost at \$1000/sample

Fatality Management

Fatality Management Tasks

- Remains search and recovery
- Victim identification
- Cause/Manner of death determination
- Collecting antemortem data
- Family assistance issues/decisions

Fragmentary vs. Complete Remains

Fragmentary

- ID all pieces vs. ID of all victims
- Triage
- DNA IDs
- IDs take longer
- Reassociation of remains
- Common tissue

Complete

- ID of victims
- Conventional IDs
- Faster IDs

Morgue Requirements

- Hot/cold running water
- Restrooms
- Electricity
- HVAC
- Drainage
- Parking
- Communications
- Secure
- 5000-8000 sq ft



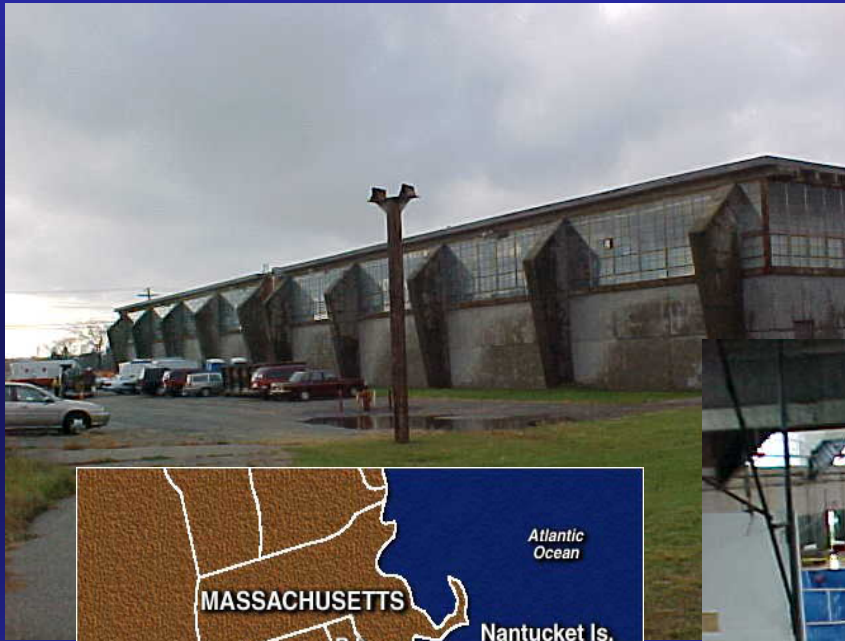
Morgue Location

- Hangar
- Abandoned warehouse
- National Guard armory
- ME/Coroner office
- *Do Not Use:*
 - School
 - Public facility
 - Hospital

Incident Morgue Egyptair 990

Quonset Naval Air
Station

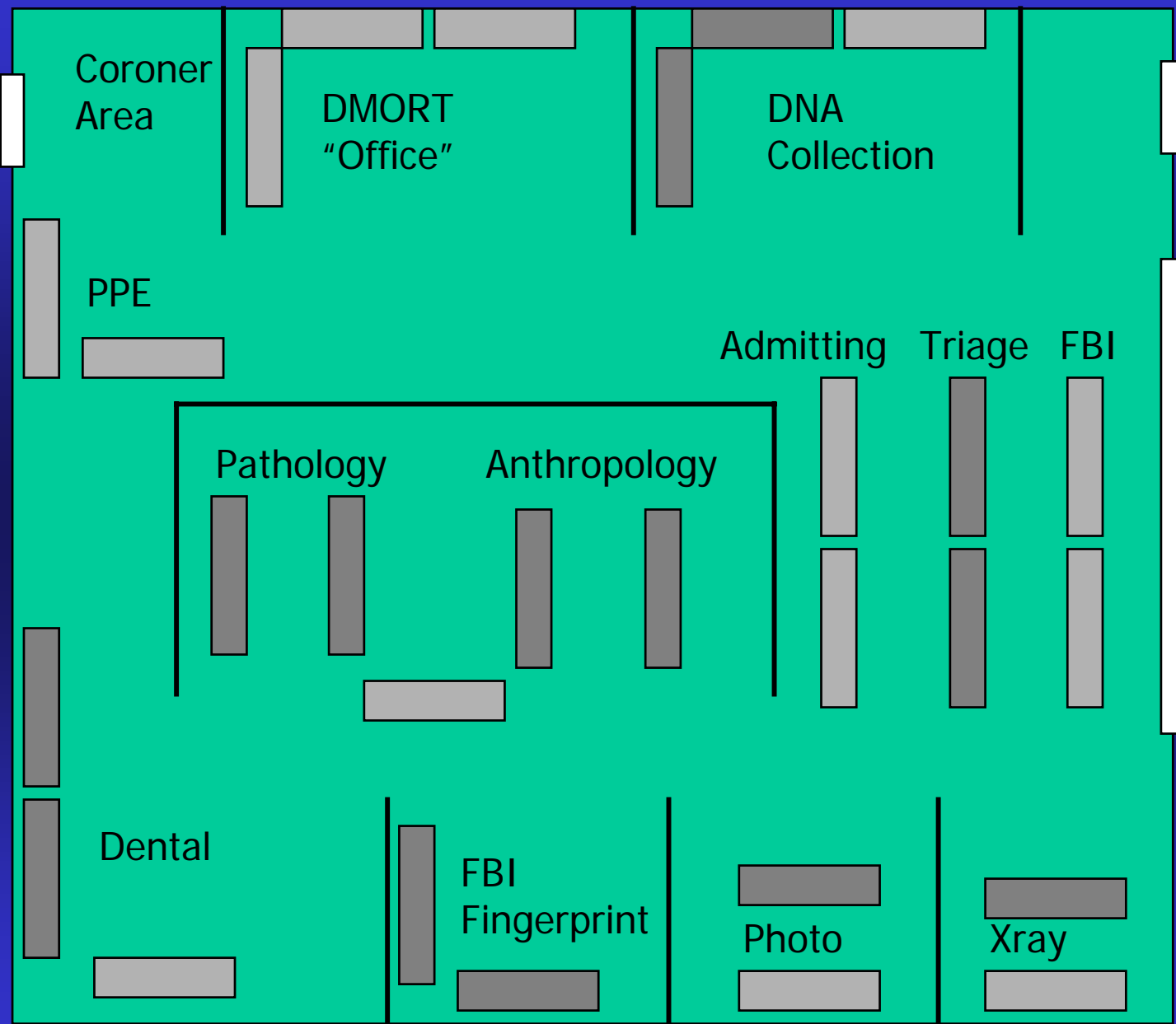
November 1999



Incident Morgue Executive Air



Wilkes-
Barre/
Scranton
International
Airport
May, 2000



Reefer

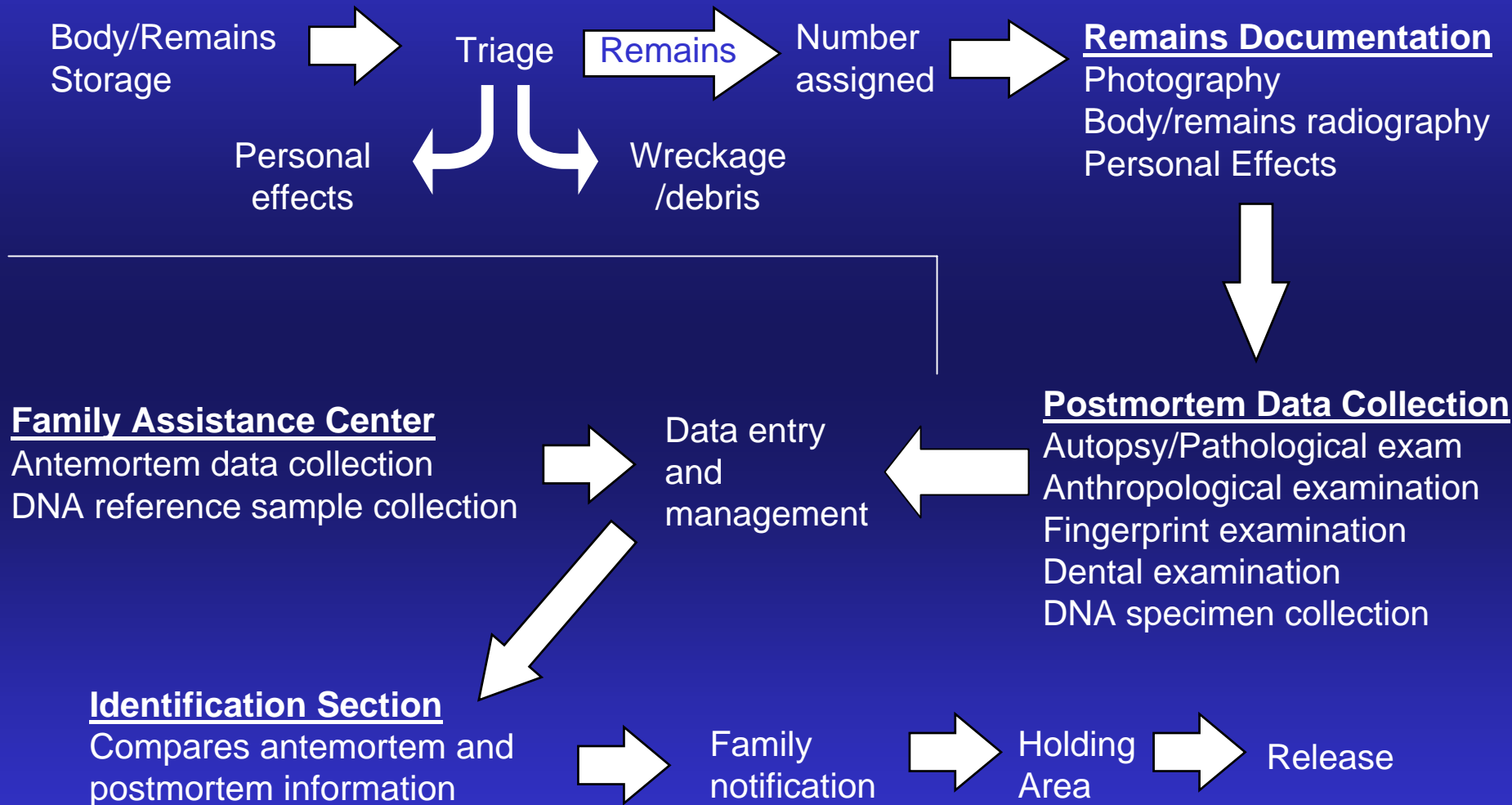
Reefer

Incident Morgue Corporate Airlines Kirksville, MO

Area inside
40,000 sq ft
warehouse



Morgue Flow



Antemortem Data

- Family interview
- Medical records
 - radiographs, surgeries, implants
- Dental records
- DNA (stored or family)
- Fingerprints

Antemortem Interview

- Trained personnel
- Standard 8 page form (DMORT VIP)
- In-person and phone interview
- ID biological information
- Personal effects information
- Dentist and doctor contacts
- NOK contact information
- DNA buccal swab collection

Objects in Body: Pacemaker Steel plate Shrapnel
 Bullets Needles Other _____
 Please place other objects here

Old Fractures: Description: _____
 Yes No _____

Surgery Gall Bladder Laparotomy Breast Implants
 Appendectomy Caesarean Open heart
 Tracheotomy Mastectomy Other _____
 Please place other surgery here

Unique Characteristics Description of: Scars, Operations, birthmarks, burns, missing organs, amputations, other special characteristics
 Yes No _____

Prosthetic **Prosthetic Location/Description**
 Yes _____
 No _____

Height inches Less than 24 24-36" 37-48" 49-60" 61-72" 73-84" 85-96" Over 96"

Weight in Pounds less than 10 41-60 101-120 161-180 221-240 281-300
 11-20 61-80 121-140 181-200 241-260 Greater than 300
 21-40 81-100 141-160 201-220 261-280

Eye Color Blue Green Grey Brown Hazel
Eye Status Missing R Glass R Cataract R Blind R
 Missing L Glass L Cataract L Blind L

Optical Glasses Contacts None
 Description _____

Hair Color Auburn Brown Gray Salt & Pepper Other _____
 Blonde Black Red White
 Please place other here

Hair Colored Yes No Unknown **Color** _____ **Hair Style** _____

Hair Accessory Wig Toupee Hair Piece Hair Transplant

Hair Length Short 1-3" Medium 4-8" Long 8-12" Very Long 12-24" Over 24" Bald

Hair Description _____

Facial Hair Color Blonde Brown Black Gray Red Salt & Pepper White N/Applicable

Facial Hair Type Beard Beard & Moustache Moustache Clean Shaven Goatee N/Applicable

Facial Hair Style Fu Manchu Mutton Chops
 Handle Bar Pencil Thin Upper Lip
 Whiskers Under Lower Lip Full Upper Lip

Facial Hair Notes _____

Ear Lobes Attached Unattached Unknown **Circumcision** Yes No Unknown NA

Autopsy

- Required for crew
 - Cause/manner of death
 - Correlation injuries with CVR/FDR
 - Tox box (FAA tox kit)
- May not autopsy passengers
 - Passenger injuries with reconstruction of seating arrangement
 - Survivable vs nonsurvivable
- Fragmented remains cannot be autopsied

Death Certification

- Varies by state
- Issued by medical examiner/coroner or state health department
- For disaster victims:
 - Pending/Presumptive/Fatal Notice
 - Remains identified but further tests required
 - Remains can be returned to family
 - Assist next of kin with insurance, etc.

Notification and Release

- Legal NOK notified of positive ID
- NOK decision:
 - Release without further reassociation
 - Hold remains for future reassociation
- Remains released or held accordingly
- Reassociation must await DNA results

Common Tissue

- Remains that cannot be identified
- Families informed
- Families can decide as a group what to do with common tissue
 - Interred at crash site
- If small amount, medical examiner/coroner can use existing mechanism for destruction of tissue

Recent Accident Victim Identification Data

	<i>Victims</i>	<i>Remains</i>	<i>Convent IDs</i>	<i>DNA IDs</i>	<i>ID Time</i>	<i>Comments</i>
USAir 427 <small>(1994)</small>	132	1771	132	0	2 month	
Valujet 592 <small>(1996)</small>	110	4282	69	1	2.5 months	
TWA 800 <small>(1996)</small>	230	1000	214	16	1 year	
Comair 3272 <small>(1997)</small>	29	NA	29	0	1 week	
Korean Air 801 <small>(1997)</small>	228	300 bags	94	72	6 months	
Swissair 111 <small>(1998)</small>	229	2500	140	218	--	
Egyptair 990 <small>(1999)</small>	217	6000	19	144	6 months	54 families did not provide DNA reference samples
Alaska Air 261 <small>(2000)</small>	88	950	61	85	4 months	3 not recovered
Executive Air <small>(2000)</small>	19	25	19	0	5 days	
American 77 and Pentagon <small>(2001)</small>	188	2000	108	183	3 months	5 not identified 5 unique DNA profiles (terrorists)
United 93 <small>(2001)</small>	44	1300	10	44	3 months	4 unique DNA profiles (terrorists)
American 587 <small>(2001)</small>	265	2077	219	234	1 month*	
USAirways 5481 <small>(2002)</small>	21	43	19	2	1 week	
Corporate Airlines 5966 <small>(2004)</small>	13	30	9	4	2 weeks	