

Mass Fatality Internet Resources

U.S. Federal Agencies

Centers for Disease Control

Guidelines for Handling Decedents Contaminated with Radioactive Materials

<http://www.bt.cdc.gov/radiation/pdf/radiation-decedent-guidelines.pdf>

Health Concerns Associated with Disaster Victim Identification After a Tsunami --- Thailand, December 26, 2004--March 31, 2005.

<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5414a1.htm>

A study of the public health implications of temporary morgue operations in Thailand following the 2004 tsunami. Also includes a checklist for public health and safety recommendations for temporary morgue operations.

Interim Health Recommendations for Workers who Handle Human Remains

<http://www.bt.cdc.gov/disasters/tsunamis/handlerremains.asp>

Information from the CDC for workers involved in the tsunami relief efforts. A concise listing of the issues regarding remains handling.

Disposing of Liquid Waste from Autopsies in Tsunami-Affected Areas: Interim Guidance from the Centers for Disease Control and Prevention

<http://www.bt.cdc.gov/disasters/tsunamis/pdf/tsunami-autopsyliquidwaste.pdf>

Department of Homeland Security

Disaster Mortuary Operational Response Team

www.dmort.org

The main page for the Disaster Mortuary Operational Response Team (DMORT), part of the Federal Emergency Management Agency, National Disaster Medical System.

DMORT: Flight 93 Morgue Protocol

<http://www.dmort.org/DNPages/DMORTDownloads.htm>

The morgue protocol from the DMORT response to the crash of United Flight 93 on September 11, 2001. The criminal nature of this event caused DMORT to alter some of its morgue operations, and this protocol was adopted for this response.

Guidance for Mass Rescue Operations

<http://www.uscg.mil/hq/g-o/g-opr/nsarc/nsp.pdf>

This US Coast Guard document guidance should be considered by search and rescue (SAR) authorities (particularly rescue coordination centers), emergency and disaster response authorities, ship and aircraft owners and operators, and other government and industry persons responsible for planning for mass rescue operations.

Department of Defense

Joint Tactics, Techniques and Procedures for Mortuary Operations in Joint Operations

http://www.fas.org/irp/doddir/dod/jp4_06.pdf

An extensive guide to the search, recovery, transport, and tentative identification of remains in theaters of military operation (149 pages, August 1996).

Guidelines for Protecting Mortuary Personnel from Potential Infectious Material

<http://chppm-www.apgea.army.mil/documents/TG/TECHGUID/TG195a.pdf>

Synopsis of the major issues relative to the handling of infectious remains (28 pages, October 2001).

Capstone Document: Mass Fatality Management for Incidents Involving Weapons of Mass Destruction

http://www.ecbc.army.mil/hld/dl/MFM_Capstone_August_2005.pdf

Guidance for medical examiners, coroner, and emergency managers for responding to a mass fatality situation following a WMD terrorist incident, mainly focusing on chemically and biologically contaminated remains. Includes information on developing incident-specific plans for managing catastrophic events. Prepared by the U.S. Army Research Development and Engineering Command Military Improved Response Program and DOJ Office of Justice Programs, Office for Domestic Preparedness (August 2005).

Guidelines for Mass Fatality Management During Terrorist Incidents Involving Chemical Agents

http://www.edgewood.army.mil/downloads/cwirp/guidelines_mass_fatality_mgmt.pdf

Developed by the US Soldier Biological Chemical Command, Military Improved Response Program, this guide addresses the variety of issues that medical examiners, coroners, law enforcement and first responders will need to deal with in a chemical fatality incident (46 pages, 1291 KB PDF, November 2001, revised December 2003).

Medical Examiner/Coroner Guide for Mass Fatality Management of Chemically Contaminated Remains

http://www.edgewood.army.mil/downloads/reports/coroner_guide.pdf

A condensed version of the above guide, in checklist form.

Dealing With the Stress of Recovering Human Dead Bodies

<http://chppm-www.apgea.army.mil/documents/FACT/36-004-0202.pdf>

Two-page overview of expectations for disaster responders in the handling of dead bodies. Produced by the US Army Center for Health Promotion and Preventive Medicine.

Office of the Armed Forces Medical Examiner

<http://www.afip.org/Departments/oafme/>

The *Office of the Armed Forces Medical Examiner* conducts scientific forensic investigations for determining the cause and manner of death of members of the Armed Forces on active duty or on active duty for training and, under specific circumstances, civilians who die in areas of exclusive federal jurisdiction.

Armed Forces DNA Identification Laboratory

<http://www.afip.org/Departments/oafme/dna/index.html>

The *Armed Forces DNA Identification Laboratory* provides worldwide scientific consultation, research, and education services in the field of forensic DNA analysis to the Department of Defense and other agencies. The DOD DNA Registry provides DNA reference specimen collection, accession, and storage of United States military and other authorized personnel.

OptoSearch

<http://www.jpac.pacom.mil/CIL/OptoSearch.htm>

OptoSearch is a forensic identification tool that allows the user to quickly calculate the frequency of occurrence for specific or generalized eye or eyeglass prescriptions. The search program allows the investigator to determine the frequency of a prescription in a population and therefore, determine the strength of match between an unknown and known sample.

Department of Justice

Mass Fatality Incidents: A Guide for Human Identification

<http://www.ojp.usdoj.gov/nij/pubs-sum/199758.htm>

Produced by the National Center for Forensic Science with the assistance of a group of experienced mass fatality forensic responders, this guide aids the medical examiner or coroner in preparing disaster plans with a focus on victim identification. First responders and others can use the guide to understand the death investigation process.

Lessons Learned from 9/11: DNA Identification in Mass Fatality Incidents

<http://massfatality.dna.gov/>

"Lessons Learned from 9/11: DNA Identification in Mass Fatality Incidents offers guidance on the myriad issues the forensic community must face in a mass disaster to ensure that all victims can be accounted for, and identified."

Identifying Victims Using DNA: A Guide for Families

<http://www.ncjrs.org/pdffiles1/nij/209493.pdf>

A 13 page guide written for family members to answer questions concerning the DNA identification process, the collection of reference samples, and other issues surrounding DNA identification of human remains.

Office for Victims of Crime (OVC)

<http://www.ojp.usdoj.gov/ovc/>

The (OVC) was established by the 1984 Victims of Crime Act (VOCA) to oversee diverse programs that benefit victims of crime. OVC provides substantial funding to state victim assistance and compensation programs, supports trainings designed to educate criminal justice and allied professionals regarding the rights and needs of crime victims.

Death Investigation: A Guide for the Scene Investigator

<http://www.ojp.usdoj.gov/nij/pubs-sum/167568.htm>

This booklet establishes guidelines for conducting death investigations. The focus of the guide is on the death scene, the body, and the interactive skills and knowledge that must be applied to ensure a successful case outcome (November 1997).

FBI Office for Victim Assistance (OVA)

<http://www.fbi.gov/hq/cid/victimassist/home.htm>

The *FBI Office for Victim Assistance* ensures that victims of crimes investigated by the FBI are afforded the opportunity to receive the services and notification as required by federal law and DOJ guidelines. The FBI recognizes the necessity of providing for the legal rights of victims but the benefits that effective and timely victim assistance brings to investigations.

Crime Scene Investigation: A Guide for Law Enforcement

<http://www.ojp.usdoj.gov/nij/pubs-sum/178280.htm>

Fundamental principles of investigating a crime scene and preserving evidence to yield reliable information (January 2000).

FBI Disaster Squad

<http://www.fbi.gov/hq/lab/disaster/disaster.htm>

The *FBI Disaster Squad* is a forty-person team of agents trained in fingerprint identification methods, forensic dentistry, forensic anthropology, and the proper operational procedures to follow after a disaster. These agents travel to disasters to assist local authorities in identifying victims.

FBI Evidence Response Team (ERT)

<http://www.fbi.gov/hq/lab/ert/ertmain.htm>

The *FBI Evidence Response Team (ERT)* is a group of highly-trained and well-equipped FBI personnel specializing in organizing and conducting major evidence recovery operations. They manage the identification, collection, and preservation of evidence at crime scenes.

Providing Relief to Families After a Mass Fatality: Roles of the Medical Examiner's Office and the Family Assistance Center

http://www.ojp.usdoj.gov/ovc/publications/bulletins/prfmf_11_2001/welcome.html

Providing Relief to Families After a Mass Fatality: Roles of the Medical Examiner's Office and the Family Assistance Center (November 2002) is an excellent resource for a variety of mass fatality family assistance and victim identification concerns. Areas addressed include:

- Primary issues and concerns of the victims' families
- Examples of a State/Federal partnerships for victim assistance services in a Medical Examiner's office
- Lessons learned about what is helpful when working with victims' families
- Family Assistance Center operations and resources, including a summary of procedural considerations.
- Formulating a Crisis Response Plan, including long-term crisis response plans

Department of State

Foreign Affairs Manual Volume 7 (1830): Aviation and Other Transportation Disasters

<http://www.state.gov/documents/organization/86830.pdf>

Explains the role of the DOS and other federal agencies and air carriers in the case of accidents on US soil involving foreign citizens and accidents overseas involving US citizens.

National Transportation Safety Board, Office of Transportation Disaster Assistance

<http://www.nts.gov/Family/family.htm>

The NTSB Office of Transportation Disaster Assistance provides family/victim support coordination, family assistance centers, forensic services, communication with foreign governments, and inter-agency coordination to assist communities and commercial carriers in the event of a major transportation disaster. There are also links on this site to the full version of the Aviation Disaster Family Assistance Act of 1996 (Public Law 104-264), the Foreign Air Carrier Family Support Act of 1997, and amendments to both laws.

Federal Family Assistance Plan For Aviation Disasters

<http://www.nts.gov/publicatn/2000/spc0001.htm> (PDF and HTML)

Describes responsibilities for airlines and Federal agencies in response to aviation accidents involving a significant number of passenger fatalities and/or injuries. It is the basic document for organizations that have been given responsibilities under this plan (e.g. American Red Cross, DMORT, airlines) to develop supporting plans and establish procedures (August 1, 2000).

Responding to an Aircraft Accident - How to Support the NTSB (For Police & Public Safety Personnel)

http://www.nts.gov/Family/LEO_brochure.pdf

Brochure listing the major tasks required of law enforcement and public safety personnel in the first stages of aircraft accident response.

State Documents

Report of the Virginia Tech Review Panel

<http://www.governor.virginia.gov/TempContent/techPanelReport.cfm>

Report on the Virginia Tech University shootings, with sections on the medical examiner response and the associated family assistance support (Sections 10 and 11).

Florida Emergency Mortuary Operations Response System, Field Operations Guide

http://femors.org/docs/FEMORS_FOG_3rd_Edition_Final_010507.pdf

Reuniting the Families of Katrina and Rita: Louisiana Family Assistance Center Final Report

<http://www.dhh.louisiana.gov/offices/publications/pubs-303/Full%20Report.pdf>

Published by the Louisiana Department of Health and Hospitals, this 25 page documents the family assistance and victim identification process.

United Kingdom

City of London Mass Fatality Plan

<http://www.londonprepared.gov.uk/londonplans/emergencyplans/massfatality.jsp>

"The London Mass Fatality Plan is focused on facilitating the response to a 'sudden impact' event or 'emergency' which involves mass fatality. Designed to provide tactical options and guidance to all agencies responding to an incident involving mass fatality, the plan also provides additional options for dealing with incidents involving large numbers of human fatalities. It may also be used to cater for the response to an incident overseas which calls for the identification and repatriation of large numbers of UK nationals."

Guidance on Dealing with Fatalities in Emergencies

<http://www.ukresilience.info/publications/fatalities.pdf>

Well-researched and informative document on the broad issues of mass fatality management and family assistance.

Humanitarian Assistance in Emergencies: Guidance on Establishing Family Assistance Centres

<http://www.ukresilience.info/publications/facacpoguidance.pdf>

Excellent overview of the establishment and operation of Family Assistance Centers, with some lessons learned from the July 7 bombings.

Report of the 7 July Review Committee

<http://www.london.gov.uk/assembly/reports/7july/report.pdf>

Report on the July 7 London subway/bus bombings. There are some important lessons for fatality management and family assistance in the document (see sections 7 and 9).

International Agencies

INTERPOL

Disaster Victim Identification Guide

<http://www.interpol.int/Public/DisasterVictim/guide/default.asp>

A resource for general information on disaster victim identification primarily used in Europe and Middle East. Designed to encourage the compatibility of procedures across international boundaries, this guide gives practical advice on major issues of victim identification, underlining the importance of pre-planning and training.

DVI Forms

<http://www.interpol.int/Public/DisasterVictim/Forms/Default.asp>

Forms used by Interpol DVI and reflective of the antemortem information typically collected from family members. The Interpol DVI Forms are available in English, French, Spanish, and Arabic.

World Health Organization/Pan American Health Organization

Management of Dead Bodies After Disasters: A Field Manual for First Responders

[http://www.icrc.org/Web/Eng/siteeng0.nsf/htmlall/p0880/\\$File/ICRC_002_0880.PDF!Open](http://www.icrc.org/Web/Eng/siteeng0.nsf/htmlall/p0880/$File/ICRC_002_0880.PDF!Open)

This manual presents simple recommendations for non-specialists to manage the recovery, basic identification, storage and disposal of dead bodies following disasters, in addition to suggesting ways to provide support to family members and communicate with the public and the media. The principles outlined in this document are being implemented and promoted by a variety of organizations, including the Pan American Health Organization, the World Health Organization, the International Committee of the Red Cross and the International Federation of Red Cross and Red Crescent Societies.

Management of Dead Bodies in Disaster Situations

<http://www.crid.or.cr/digitalizacion/pdf/eng/doc15631/doc15631.pdf>

Comprehensive guide to a variety of mass fatality issues, including preparedness for mass death response, medicolegal work, health considerations in mass fatalities, sociocultural issues, psychological aspects, legal concepts, and several case studies from recent South and Central American disasters.

Infectious Disease Risks from Dead Bodies Following Natural Disasters

http://publications.paho.org/english/dead_bodies.pdf

Report indicating that dead bodies from disasters do not pose an infection risk.

Disaster Myths that Just Won't Die

http://www.paho.org/English/DD/PIN/Number21_article01.htm

Overview of some issues related to family assistance and dealing with large number of fatalities.

WHO Conference on the Health Aspects of the Tsunami Disaster in Asia: Phuket, Thailand, 4- 6 May 2005

<http://www.who.int/hac/events/tsunamiconf/presentations/en/>

This conference featured a section on mass fatality management, including the following:

Review of medicolegal experience involving Tsunami disaster in Sri Lanka (Dr. UCP Perera)

http://www.who.int/hac/events/tsunamiconf/presentations/2_16_forensic_clifford_perera_doc.pdf

Forensic aspect of disaster casualty management: Tsunami Victim Identification in Thailand

(P Sribanditmongkol, P Pongpanitanont, et al.)

http://www.who.int/hac/events/tsunamiconf/presentations/2_16_forensic_pongruk_doc.pdf

Professional and Private Organizations

National Association of Medical Examiners (NAME)

NAME Mass Fatality Plan

http://thename.org/index.php?option=com_docman&task=doc_download&gid=62&Itemid

NAME's Mass Fatality Plan is a template for jurisdictions creating a plan. Many of the forms are similar to those in use by DMORT.

American Dental Association (ADA)

The Dentist's Role in Forensic Identification: The Release of Dental Records & Radiographs, and Denture Labeling

http://www.ada.org/prof/prac/disaster/recover/volunteering_forensic.pdf

Publications and Articles

World Trade Center Disaster

World Trade Center Human Identification Project: Experiences with Individual Body Identification Cases

<http://www.cmj.hr/2003/44/3/12808716.pdf>

Presents individual body identification efforts as part of the World Trade Center (WTC) mass disaster identification project.

Development of a Quality, High Throughput DNA Analysis Procedure for Skeletal Samples to Assist with the Identification of Victims from the World Trade Center Attacks

<http://www.cmj.hr/2003/44/3/12808717.pdf>

For mass fatality incidents, quality, high throughput procedures will allow for more rapid DNA analysis of victim remains, more rapid identification of victims, and thus more rapid return of remains to family members.

Deaths in the World Trade Center Terrorist Attacks

<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm51SPa6.htm>

Basic demographic data from the Morbidity and Mortality Weekly Review.

World Trade Center DNA Identifications: The Administrative Review Process

www.promega.com/geneticidproc/ussymp13proc/contents/hennesseyrev1.pdf

Describes the process of DNA identification at the WTC, the complications encountered and how they were overcome, and some lessons learned that are applicable in future situations.

Methods Developed to Identify Victims of the World Trade Center Disaster
<http://www.iscpubs.com/articles/al/a0403mar.pdf>

Asian Tsunami

Mass Fatality Management following the South Asian Tsunami Disaster: Case Studies in Thailand, Indonesia, and Sri Lanka
<http://dx.doi.org/10.1371/journal.pmed.0030195>.

Inside an international crisis: How first responders combined forces in Thailand and Sri Lanka
Royal Canadian Mounted Police Gazette, Vol. 68, Issue 2, 2006.
http://www.gazette.rcmp.gc.ca/article-en.html?&lang_id=1&article_id=257

After the Tsunami: Legal Implications of Mass Burials of Unidentified Victims in Sri Lanka
http://medicine.plosjournals.org/archive/1549-1676/2/6/pdf/10.1371_journal.pmed.0020185-S.pdf

Virginia Tech Shootings

Mass Murder in a University Setting: Analysis of the Medical Examiner's Response, by Marcella F. Fierro, MD
http://www.dmph.org/cgi/content/full/1/Supplement_1/S25

Abstract: "A retrospective review of the medical examiner system response to this multiple fatality event was undertaken to identify which procedures were and were not effective. Case records, spreadsheets, telephone call logs, notes, and after-action interviews of staff were reviewed and analyzed. Recommendations were developed to improve the management of the multiple components of a high-profile multiple fatality event."

Mass Shootings at Virginia Tech: Report of the Review Panel (August 2007)
<http://www.governor.virginia.gov/TempContent/techPanelReport.cfm>

See particularly the following sections:

Chapter X: Office of the Chief Medical Examiner
<http://www.governor.virginia.gov/TempContent/techPanelReport-docs/14%20CHAPTER%20X%20OFFICE%20OF%20THE%20CHIEF%20ME.pdf>

Chapter XI: Immediate Aftermath and the Long Road to Healing
<http://www.governor.virginia.gov/TempContent/techPanelReport-docs/15%20CHAPTER%20XI%20AFTERMATH.pdf>

Health and Safety

Handling of Disaster Victim Human Remains: A Quick Guide for Health Care Workers, Medical Examiners, and Funeral Services

https://www.femors.org/ssl/docs/FEMORS_Handling_of_Disaster_Victim_Human_Remains.pdf

Produced by the Florida Department of Health under a grant from the US Department of Health and Human Services and distributed by the Florida Emergency Mortuary Operations Response Team (www.femors.org). This 12 page guide covers, in easily understood diagrams and text, many of the technical, legal, and medical aspects of mass fatality remains handling.

Epidemics after Natural Disasters: A Highly Contagious Myth

<http://www.colorado.edu/hazards/o/archives/2007/jan07/jan07b.html>

Miscellaneous

Victim Identification and Family Support in Mass Casualty Incidents: The Massachusetts Model

<http://www.icisf.org/articles/Acrobat%20Documents/TerrorismIncident/massmodel.pdf>

Forensic Processing of the Terrestrial Mass Fatality Scene: Testing New Search, Documentation and Recovery Methodologies

<http://mai.mercyhurst.edu/PDFs/%20AAFS%202001%20Seattle%20paper%20.pdf>

Bibliography of Mass Fatality Investigations

<http://mai.mercyhurst.edu/PDFs/2001mass%20fatality.pdf>

Forensic Dental and Medical Response to the Bali Bombing: A Personal Perspective

http://www.mja.com.au/public/issues/179_07_061003/lai10499_fm.html

Improving procedures and minimizing distress issues in the identification of victims following disasters

[http://www.ag.gov.au/agd/EMA/rwpattach.nsf/viewasattachmentpersonal/\(85FE07930A2BB4482E194CD03685A8EB\)~Improving_procedures_and_minimising_distress_issues_in_the_identification_of_victims.pdf/\\$file/Improving_procedures_and_minimising_distress_issues_in_the_identification_of_victims.pdf](http://www.ag.gov.au/agd/EMA/rwpattach.nsf/viewasattachmentpersonal/(85FE07930A2BB4482E194CD03685A8EB)~Improving_procedures_and_minimising_distress_issues_in_the_identification_of_victims.pdf/$file/Improving_procedures_and_minimising_distress_issues_in_the_identification_of_victims.pdf)

“Reflecting on previous and current practices and experiences, this article draws on the procedures followed in the UK when establishing the identity of victims following disasters and highlights the differing needs, interests and issues arising for both professionals and the bereaved.”

Challenges of DNA profiling in mass disaster investigations

<http://www.cmj.hr/2005/46/4/16100756.pdf>

This paper examines the different steps of the DNA identification analysis (DNA sampling, DNA analysis and technology, DNA database searching, and concordance and kinship analysis) and reviews the “lessons learned” and the scientific progress made in some mass disaster cases described in the scientific literature.