Final Report: Best Practices

“Focus Group on Using Technology to Assist Medical Examiners and Coroners in the Identification of Human Remains” (i.e., NamUs/UDRS)

NIJ Award 1998-IJ-CX-K003, Supplement No. 10

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1. INTRODUCTION

"Show me the manner in which a nation or community cares for it's dead and I will measure with mathematical exactness the tender mercies of it's people, their respect for the law of the land, and their loyalty to high ideals."

~ William Gladstone (1809-1898)

A turquoise necklace, a ring and a sketch of a young woman with a slightly rounded face and shoulder-length hair are almost all that remains of the homicide victim dumped in the bushes more than 30 years ago. Within days of her death, detectives began an investigation that, despite their efforts, led nowhere. Today, this fatality is one of an estimated 40,000 unidentified decedents nationwide, of which many are homicide victims, whose remains since 1975 are held in morgues, buried in pauper's graves, or cremated. Before they became “Jane Doe” and “John Doe,” they had proper names and real lives. Somewhere, thousands of people are looking for their loved one(s) while hundreds of perpetrators are literally “getting away with murder.” It is a national crisis that presents an immense challenge to our criminal justice system.

A recent survey of medical examiner/coroner offices by the Bureau of Justice Statistics reveals that only 49% of those same medical examiner/coroner offices/departments have policies for retaining records on unidentified decedents (i.e., “UIDs”). Those 49% recorded nearly 13,500 unidentified human decedents. Although there are four (4) FBI databases, which can be used to identify bodies, access is limited, and there is no federal mandate requiring medical examiners, coroners, and police departments to submit unidentified decedent data. The National Crime Information Center’s Unidentified Person (NCIC-UP) database documents only approximately 15% of the nation’s estimated unidentified decedents. Cross-referencing the unidentified against missing persons is hindered by the fact that a federal mandate only requires reporting of those missing under the age of eighteen (18) years of age. The estimated 100,000 in the NCIC-MP (Missing Persons)

5 NCIC (http://www.fbi.gov/hq/cjisd/ncic.htm).
database does not reflect the much larger estimate of missing adults not reported. The situation is further complicated by the fact that some medical examiner/coroner offices and state-based clearinghouses have their own UID Websites. Non-profit organizations such as the National Center for Missing and Exploited Children\(^8\), the National Center for Missing Adults\(^9\), and the Doe Network\(^10\) also have Web sites. The multiplicity of such sites requires users to search multiple unconnected databases which may contain only local cases, and which have little or no search capability.

Inaccessible, underused, ineffective, or fragmented databases are not the only problem. Recent mass disasters and the emergent threat of terrorist activity have demonstrated the great need for enhanced resources and new technologies to assist medical examiners and coroners with human identification. The ability to share technology, resources, and information is crucial to resolving investigations of unidentified and missing persons. Several agencies are often involved in an UID investigation, where the lack of cooperation and communication can lead to potential fundamental errors that delay identification for years.

Over the past several years, the U.S. Department of Justice\(^11\), Office of Justice Programs, has confronted our nation’s ‘silent mass disaster.’ Under President Bush’s DNA Initiative\(^13\), “Advancing Justice through DNA Technology”\(^14\), the Office of Justice Programs\(^15\), the National Institute of Justice\(^16\) awarded a grant to the National Center for Forensic Science\(^17\) to assess the specific technology and resource needs of the medical examiner and coroner community that will enhance their ability to identify the missing.

A Focus Group\(^18\) was formed consisting of national experts knowledgeable in the fields of human identification and technology; medical examiners and coroners, forensic anthropologists, odontologists, DNA scientists, death investigators, and technology experts. Their task was to determine the best way to quickly identify and prioritize the community needs and develop a plan for implementing technologies and resources to meet those needs.

Over the course of four (4) meetings, three (3) major areas of community needs were identified; an accessible unidentified decedent database, best

\(^8\) NCMEC (http://www.ncmec.org).
\(^9\) NCMA (http://www.theyaremissed.org/ncma).
\(^10\) Doe Network (http://www.doenetwork.org/start.html).
\(^13\) President’s DNA Initiative (http://www.dna.gov).
\(^14\) “Advancing Justice through DNA Technology” (http://www.whitehouse.gov/infocus/justice).
\(^15\) US DOJ/OJP (http://www.ojp.usdoj.gov).
\(^16\) NIJ (http://www.ojp.usdoj.gov/nij).
\(^17\) NCFS (http://www.ncfs.org).
\(^18\) NIJ initially funded the development of this focus group for (FY-2004) through award no. 1998-IJ-CX-K003, Supplement No. 10 (UCF Project No. 24076014). NIJ continued supporting this project (for FY-2006) through award no. 2005-MU-MU-K044, Supplement No. 1 (UCF Project No. 24076017).
practices guidelines, and technology, training and research. Possible solutions and recommendations were developed and are presented in a final report. This Best Practices document has been extracted from that report to be presented here for reference. The 40,000 remains that lie nameless and silent have found a voice through the many concerned and dedicated professionals who seek their identity; several of those professionals participated in the “Identification of Human Remains” Focus Group.
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3. ACKNOWLEDGEMENTS

The National Center for Forensic Science (NCFS, http://www.ncfs.org) at the University of Central Florida (UCF, http://www.ucf.edu), through a Cooperative Agreement with the National Institute of Justice (NIJ, http://www.ojp.usdoj.gov/nij), was indeed privileged to facilitate this process.

The participants in the Focus Group have given their utmost professional and emotional energies to develop the groundwork for a technical effort to identify those decedents whose remains are "somewhere, but just not identified."

It would seem that we could simply match the missing with the found, but it is a far more complicated process than anyone could ever have imagined. These dedicated professionals have a depth of understanding that is astounding and has developed over years of professional practice.

Dedication was redefined during the weekend meetings of the Focus Group, who met in 2006 and 2007 to explain, debate, theorize, persuade, cooperate, envision, and eventually by consensus record methods and procedures that has the potential to provide the solution to this shamefully sad problem for the estimated 40,000 unidentified dead. Each participant added a slightly different view that assisted or changed the views of the focus group.

The history of effort and caring was summarized by Dr. Marcella Fierro, The Commonwealth of Virginia’s Chief Medical Examiner (now retired), during comments at the closure of our final weekend meeting in March 2007, remarked: “This is the first time I have had any hope since 1975.” It was in 1975 that Dr. Fierro had sent her first letter to Washington, DC concerning this very topic. NCFS, together with the continued support of NIJ and the Focus Group members, will forge forward to meet the challenges ahead with the development and implementation of the Unidentified Decedent Reporting System (UDRS, http://www.identifyus.org), now an integral component of the National Missing and Unidentified Persons System (NamUs, http://www.namus.org) initiative20 funded by NIJ.

I would especially like to thank Katherine Sullivan (Project/Technical Manager) and John Bardakjy (Coordinator, Research Programs/Services) for their role in organizing, coordinating, and facilitating these meetings, as well as drafting, revising, and distributing meeting summaries and the final report for this project. Their tenacity and ability to maintain agility and strength to match that of the Focus Group was exemplary.

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4. BEST PRACTICES GUIDELINES

In investigating unidentified human remains cases, it is of utmost importance that all agencies follow Best Practices standards developed by working groups of experts in the field, to ensure that proper and necessary steps are taken to aid in identification.

The following guidelines are provided to assist medical examiners, coroners, and law enforcement in improving procedures for these cases. See Appendix for samples of useful checklists and forms.

The Time Process

Experience has shown that cases involving unidentified human remains pass through three periods: the Hot, Warm, and Cold periods.
A. The “Hot” Period

For the Medical Examiner/Coroner, this period represents that interval of time where certain data can easily be collected from the deceased by careful review, observation, and documentation. It includes, but is not limited to, the proper use of photography, proper fingerprint techniques, inventory, description of clothing and personal affects, scars, tattoos, dental and full body x-rays/radiographs, the collection of appropriate material for DNA testing, and accurate data entry.

1) Identification Photography

a) Where appropriate, clean full-faced color photographs should be taken of the deceased as soon as practical.

b) These facial photos should include eyeglasses placed on the deceased’s face with the eyes open if the individual is believed to have worn them.

c) Other photographs that should be taken for identification purposes include tattoos, scars, deformities, body piercings, bite marks, pattern injuries, clothing, or any other item related to the case that could help with the identification.

d) A complete set of full body photographs should also be taken showing the anterior, posterior, and lateral portions of the deceased body.

e) If the body has been skeletonized, make certain that all bones with any unique features appear in the photographs.

f) All of the above should always include a ruler, which clearly shows measurements of the items in the photographs.

2) Fingerprints

On two (2) standard ten-print cards, two (2) full sets of fingerprints should be taken. One set must always remain in the Medical Examiner/Coroner’s case file and the other set provided to the investigating law enforcement agency for submission to the National Criminal Information Center\(^{21}\), local Automated Fingerprint

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\(^{21}\) NCIC (http://www.fbi.gov/hq/cjisd/ncic.htm).
Identification Systems\textsuperscript{22} and the Integrated Automated Fingerprint Identification System.\textsuperscript{23}

a) Three (3) sets of the deceased palm prints should also be taken and distributed as outlined above.

b) Under certain conditions, adhesive strips may be used to obtain the fingerprints, then placed on the standard ten-print card.

c) Utilize only skilled fingerprint technicians to take finger and palm prints from a decomposing body.

d) Before distributing the fingerprint cards, at least one qualified fingerprint examiner should review them to ensure that there is enough detail to permit a classification of the prints.

e) If a fingerprint obtained by detached gloving cannot be identified as to proper placement on the card, it should be noted on the card itself.

f) Every effort should be made to obtain fingerprints and palm prints no matter how badly damaged or decomposed the hands are.

g) In some cases, it may be necessary to remove surgically the fingers or skin. This should only be done with the Medical Examiner/Coroner’s approval.

h) Postmortem fingerprints may be compared with latent prints from known personal effects and papers of missing person(s) to accomplish identification when prints are not available from standard databases.

Once the fingerprint search has proved to be negative and with no mistakes made, a Forensic Odontologist should be contacted to initiate the dental examination.

3) **Inventory and Documentation of Clothing and Personal Effects**

a) As the above steps are being taken, the Medical Examiner/Coroner should ensure that all personnel handling clothing and personal effects are wearing gloves to avoid DNA contamination.

b) Carefully examine, document, and photograph all clothing and personal effects associated with the deceased that may provide

\textsuperscript{22} AFIS (e.g., the State of Connecticut’s Department of Public Safety’s “Automated Fingerprint Identification System” (http://www.ct.gov/dps/cwp/view.asp?a=2154&q=294420).

\textsuperscript{23} IAFIS (http://www.fbi.gov/hq/cjisd/iafis.htm).
evidence leading to the identification of the deceased. If recovered with skeletal remains, clothing measurements can be used to estimate the weight/size of the decedent.\textsuperscript{24}

c) Make certain that all personal effects belonging to the deceased that have been collected by law enforcement are brought to the Medical Examiner/Coroner for examination and review.

d) Search for laundry marks, manufacturer’s labels, product bar codes, and sizes of clothing and shoes that may assist in the identity phase of the identification.

e) Examine jewelry for engravings and manufactures serial identification numbers inside and outside watch cases. Consult with a watchmaker to find any watchmaker repair codes inside the watch (since codes identify the watchmaker).

f) Make certain during this period of review that no personal effects, jewelry, or clothing are washed or cleaned without the approval of the DNA technician. Such approval should appear on the property receipt accompanying the evidence.

4) **X-Rays/Radiographs**

a) If the early investigation suggests the remains will be unidentified, head and torso x-rays/radiographs should be taken prior to the autopsy.

b) If there is no identification made after the above steps have been taken, then the entire body should be x-rayed/radiographed to determine if there are unique or distinctive features within the body (e.g., broken bones, hip replacements, dental implants, pacemakers, etc.). All of these should be duly noted. Where manufacturers names, models and serial numbers are found, those companies should be contacted for information as to whom they were shipped so that there can be further follow up during this phase.

5) **DNA\textsuperscript{25}**

\textsuperscript{24} Gioello, Debbie Ann, *Figure Types and Size Ranges*, Fairchild Books, June 1979, ISBN-10: 0870052918.
a) DNA samples need to be taken early in the investigation to avoid degradation and or contamination.

b) Associated items of the victim should also be considered as a source of DNA (e.g., clothing, jewelry, eye glasses, etc.) Again, gloves should always be worn when handling these items and under no circumstances should these items be washed or cleaned until the DNA process is complete.

c) Obtain and properly store all DNA samples from remains for future profiling.

d) Obtain DNA reference samples for profiling from possible relatives for testing and matches.

e) For decomposed, burned, or skeletonized remains, tooth, bone, or fingernail samples should be considered.

f) Dried blood should be collected for DNA extraction.

g) Follow CODIS-NMPDD procedures (National Missing Persons DNA Database); see appendices for protocols for sample collection and submission.

h) Retain case information and DNA samples indefinitely.

6) The Media

   a) It is essential for the Medical Examiner/Coroner to maintain a good working relationship with all aspects of the media as they can assist in providing information to the public that may aid in the identification.

   b) Provide and disseminate any information (including any unique dental features) to the media that will aid in identifying the unknown remains.

   c) Obtain facial approximations, sketches, computer generated images, and clay models of the head to disseminate to the media, Websites and other outlets.

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d) In cooperation and coordination with law enforcement, prepare press releases and interviews for the public that will not jeopardize any criminal investigation.

e) Designate a single person within the Medical Examiner/Coroner’s office who will interface with the media, e.g., a public information officer, the Medical Examiner/Coroner, or other officials with experience in dealing with the media.

f) Post all press releases concerning unidentified remains on the Medical Examiner/Coroners’ Websites as well as the NamUs site.

g) Make certain that the media and Website information is continually reviewed and updated when necessary.

h) Take steps to insure that all public inquiries regarding unidentified remains are properly and fully addressed.

When the Medical Examiner/Coroner has performed all of the above procedures and no identification has been made of the remains, the Warm Period begins.
B. The “Warm” Period

1) Fingerprints

a) Resubmit all finger and palm prints to the original investigating agency for additional searches. In this time phase, specifically request that copies of the prints be submitted to agencies other than the Federal Bureau of Investigation (e.g., the Department of Defense, Immigration and Naturalization Service, U.S. Secret Service, U.S. Postal Inspection Service, etc.).

b) Provide, where possible and feasible, digital photos of the prints for more rapid transfer and analysis.

2) Odontology

Using the services of a Forensic Odontologist, have him/her:

a) Perform a complete dental exam, which includes postmortem x-rays/radiographs, photographs, and charting forms. This should be done as a screening tool to assess the presence of dental features that may aid in the identification.

b) Prepare the NCIC dental form using its current coding systems and procedures (see appendices).

c) Ensure that the original of the completed dental form has been placed in the case file and a copy is sent to the lead investigative agency for entry into the various systems.

d) The original dental x-rays/radiographs and record should be located by the Medical Examiner/Coroner or investigator and retained in the Medical Examiner/Coroner’s file.

e) Request a confirmation from the investigative agency, in writing, showing that the dental form has been sent to NCIC and NamUs/UDRS. This confirmation should also be placed in the Medical Examiner/Coroner’s file.

3) Law Enforcement

a) The Medical Examiner/Coroner must maintain a continual high degree of communication with the lead investigator in the police agency concerning any information that may lead to the identification of the unidentified remains.
b) Periodic meetings must be planned by the Medical Examiner/Coroner with law enforcement agencies to review continually the case file as to what steps, if any, can be taken to aid in the identification.

c) Ensure that all data provided for entry into NCIC and NamUs/UDRS is current and accurate. In addition, when the Medical Examiner/Coroner obtains new information, it too should be entered into the NCIC system. Obtain a copy of the updated NCIC entry for the Medical Examiner/Coroner’s case file.

d) The Medical Examiner/Coroner should advise law enforcement of what, if any, additional investigative steps should be taken to aid in the identification.

e) The Medical Examiner/Coroner must recommend to law enforcement agencies that they have procedures in place to ensure that all information received concerning unidentified remains is provided to the Medical Examiner/Coroner.

4) Anthropology

a) A qualified forensic anthropologist should examine and inventory all skeletal remains.

b) The forensic anthropologist should identify additional procedures as well as other examinations, which would aid in establishing age, race, sex, and point out peculiar or unusual aspect of skeletal remains in close cooperation with the Medical Examiner/Coroner.

c) The anthropologist, working closely with the pathologist, should establish procedures to avoid any damage or destruction of the remains.

d) The Medical Examiner/Coroner should make certain that skeletal remains are never boiled or bleached. When the bones are to be de-fleshed, the anthropologist in consultation with the pathologist and DNA expert should establish the proper procedure.

e) Under no circumstances should any unidentified remains be cremated or buried at sea.

f) Proper storage of the remains is the responsibility of the Medical Examiner/Coroner.

g) The anthropologist is responsible for completing two (2) NCIC forms containing the proper description of the remains, one of
which should be placed in the Medical Examiner/Coroner’s file and the other sent to the lead investigating agency.

h) Request a receipt from the agency entering the data, to confirm its entry into NCIC.

5) **Recommended Data Entry Procedure**

The Medical Examiner/Coroner should, **in cooperation** with the proper law enforcement agency:

a) Request that those agencies entering the data related to unidentified remains include the NamUs-UID system, the National Center for Missing Adults, the National Center for Missing and Exploited Children, the Doe Network, and other related organizations interested in missing persons and unidentified remains.

b) Check the NCIC printout for data accuracy and completeness. Verify that the scars, marks, tattoos (SMT) and other codes are also properly entered.

c) Again, resubmit fingerprints periodically. As experience has shown, the prints that previously had no matches have produced a match upon resubmission.

d) Validate and correct entries in the NamUs-UID system or other unidentified decedent Websites.

e) Provide information for families on how best to search for unidentified decedents and missing persons in addition to providing tips for searching UID systems and entering missing person data.

f) Check the NCIC number entry on the unidentified decedent NamUs-UID Website to verify that the case has been entered into NCIC, and that information is consistent in the two systems, or ensure that NCIC information is obtained and entered if no NCIC number is listed on the NamUs Website (www.namus.gov)

g) Maintain a continual close contact with law enforcement agencies concerning identification procedures.

h) Assist the public and professionals with inquiries regarding possible matches.

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26 NCMA (http://www.theyaremissed.org/ncma).
27 NCMEC (http://www.ncmec.org).
i) Ensure that solved/cleared cases have been removed from applicable database

j) Keep an exclusion list with case information, exclusion method and the date and signature of the person performing the exclusion.

C. The “Cold” Period

This period continues the earlier efforts of investigation. All information and data that can lead to identification is rechecked. Best Practices should include, but not be limited to, updating the various Websites, reviewing the case file for missing or additional information, resubmitting the fingerprints to law enforcement agencies, and searching for new applications or technologies that may aid in the investigation.

1) DNA Testing and Updating

a) Review, update, and resubmit information into the NamUs-UP Website and other Websites such as NCIC, Doe Network, NCMEC, etc.

b) Resubmit all fingerprints.

c) Send DNA samples to the FBI or other CODIS laboratory for analysis. Obtain DNA reference samples from the victim’s environment or possible relatives, for submission to the FBI – NMPDD (National Missing Person DNA Database) laboratory. (see appendix)

d) Carefully select long-term storage facilities for the remains. A final review with the investigating police agency should take place before disposition of remains.

e) Again, cremation or burial at sea should never be permitted for any unidentified remains.
### Hot, Warm, Cold Period Checklist

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<td>Full-body autopsy photos: anterior, posterior, lateral</td>
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<td>Skeleton spls: bone, tooth or fingernails</td>
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<td>Skeletonized: all bones &amp; unique features</td>
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<td>Spis. from personal effects</td>
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<td>Unique features: tattoos, scars, piercings, bite marks, deformities, pattern injuries</td>
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<td>Before autopsy X-ray head &amp; torso</td>
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<td>2 full sets – palm</td>
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<td>If no ID then X-ray entire body for healed fractures, implants (SN &amp; model)</td>
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<td>Reviewed</td>
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<td>Other unique morphology</td>
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<td><strong>PERSONAL EFFECTS:</strong></td>
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<td><strong>MEDIA:</strong></td>
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<tr>
<td>Inventory all</td>
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<td>Press release</td>
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<td>Check manufacturer labels, barcodes, laundry marks</td>
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<td>Facial sketch or image to media, websites</td>
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<td>Clothing/shoe sizes</td>
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<td>Notify Clearing Houses</td>
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<td>Jewelry engravings &amp; serial numbers</td>
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<td>Review &amp; update media and website info</td>
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<tr>
<td>Examine all for DNA</td>
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20
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<th>initial</th>
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<td>Resubmit all prints:</td>
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<tr>
<td>Sent to FBI, DOD, INS, SS, Postal Service, etc.</td>
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<td>Postmortem X-rays, Photos and charts</td>
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<td>Send NCIC form to investigative agency</td>
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<tr>
<td>Get confirmation of date sent to NCIC</td>
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<tr>
<td>Examine for age, sex, ethnicity, etc.</td>
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<td>Complete 2 sets of NCIC forms (1 for Invest. Agency)</td>
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<tr>
<td>Get confirmation of date sent to NCIC</td>
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<td><strong>DATA ENTRY:</strong></td>
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<tr>
<td>Enter into NamUs-UP system. Check that NCIC# is correct in NamUs</td>
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<td>Review for accuracy and update all websites</td>
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<td>Remove solved cases from applicable databases &amp; websites</td>
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<td><strong>COLD PERIOD</strong></td>
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<td>initial</td>
<td>date</td>
<td>initial</td>
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<td>initial</td>
<td>date</td>
<td>initial</td>
<td>date</td>
<td>initial</td>
<td>date</td>
<td>initial</td>
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<tr>
<td>Submit DNA samples to FBI properly preserve remains and ensure safe storage</td>
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<tr>
<td>Submit DNA reference samples to FBI</td>
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<td>Resubmit fingerprints periodically</td>
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<tr>
<td>Review, update resubmit data to UDRS and other websites</td>
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<td>If not done previously, obtain facial sketches, clay models, computer images for media, websites, etc.</td>
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</tbody>
</table>
Decedent Identification Worksheet

Name________________________________________________ Case #:__________________
Police Jurisdiction: _________________ Investigator:_______________ Phone #:___________
Anthropometrics: Height: ______Weight:______Eye Color: ________Hair Color: ______
Distinguishing Features (tattoos, teeth, previous surgeries, previous injuries):
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

Autopsy Results: Height: _____Weight: _____Eye Color: _____Hair Color: _____
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

<table>
<thead>
<tr>
<th>Method</th>
<th>Antemortem</th>
<th>Postmortem</th>
<th>Results</th>
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<tbody>
<tr>
<td>Visual</td>
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</tr>
<tr>
<td>Fingerprints</td>
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<tr>
<td>Dental</td>
<td></td>
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<tr>
<td>X-rays</td>
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<tr>
<td>DNA</td>
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<td></td>
</tr>
<tr>
<td>NCIC</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Method of Identification</td>
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</tbody>
</table>
Identification Fact Sheet

(Your letterhead here)

TO: Investigators, Funeral Directors and Families

FROM: Office of the Chief Medical Examiner

SUBJECT: Identification Fact Sheet

PLEASE: Investigators should begin acquiring ALL of the items listed simultaneously upon notification that visual identification is not feasible.

The following information is required for the positive identification of burned, decomposed or otherwise unidentifiable remains:

- Fingerprints from local, state and federal sources
- The entire dental record to include
  - Charts and billing records
  - X-rays
  - Molds
  - Denture information
- Latent fingerprints from personal items if none on file in Central Records
- Medical records to include
  - X-rays (original preferred) and X-ray reports
  - History and physical exams, operative reports and consultations
  - All laboratory work
- Toothbrush, hairbrush for DNA (takes the longest time). Consult with pathologist and receipt to same.

Remains cannot be released until positive identification by one or more of the above methods are completed.

The investigator should Fax to the Medical Examiner at (number) as soon as possible the following information on the missing person, to include:

- Name
- Address
- Social Security Number
- Date of birth
- Missing person report

All records and items being requested should be FAXED, HAND DELIVERED or sent by next-day PRIORITY MAIL, FEDERAL EXPRESS, or other overnight express company. Thank you.

Direct inquiries to____________________________Telephone number________________
Next Of Kin Form

(your letterhead here)

______________________________________________

Date: ______________________

To: __________________________

From: Office of the Chief Medical Examiner

Re: ___________________________ Date of death: ______________

Please complete and return this form as soon as possible.

We have made diligent effort to locate next of kin for the decedent listed above and have located no next of kin as of this date.

________________________________  ____________________
Investigating Officer     Date
## Unidentified Decedent Checklist

<table>
<thead>
<tr>
<th>Case Name</th>
<th>Case Number</th>
<th>Date Found</th>
<th>Est. DOD</th>
<th>Jurisdiction</th>
<th>Investigator</th>
<th>Phone</th>
<th>Fax</th>
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### Activity Done

<table>
<thead>
<tr>
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<th>Date &amp; Initial</th>
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<tbody>
<tr>
<td>1. Full face photo</td>
<td>____________</td>
</tr>
<tr>
<td>2. Photography, body</td>
<td>____________</td>
</tr>
<tr>
<td>3. Photography, clothing</td>
<td>____________</td>
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<tr>
<td>4. Hair exemplars</td>
<td>____________ (head, pubic, axillary, other)</td>
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<tr>
<td>5. DNA blood card/bone/clothing sample</td>
<td>____________</td>
</tr>
<tr>
<td>6. Full body radiographs for ID features, age, sex</td>
<td>____________</td>
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<tr>
<td>Report of radiology review</td>
<td>____________</td>
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<tr>
<td>7. Fingerprints including palms (Footprints are optional)</td>
<td>____________</td>
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<tr>
<td>AFIS search report received</td>
<td>____________</td>
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<tr>
<td>FBI search report received</td>
<td>____________</td>
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<tr>
<td>8. OCME Dental chart NCIC Dental chart</td>
<td>____________</td>
</tr>
<tr>
<td>9. Copies of reports: Missing persons was checked</td>
<td>____________</td>
</tr>
<tr>
<td>AFIS entry and results</td>
<td>____________</td>
</tr>
<tr>
<td>FBI entry and results</td>
<td>____________</td>
</tr>
<tr>
<td>10. Copy of NCIC Unidentified Person File with dental entry and other codes</td>
<td>____________</td>
</tr>
<tr>
<td>Copy of NCIC Unidentified Person File entry</td>
<td>____________</td>
</tr>
<tr>
<td>11. Exclusion list</td>
<td>____________</td>
</tr>
<tr>
<td>12. Anthropology consultation Anthropology report</td>
<td>____________</td>
</tr>
<tr>
<td>13. Final disposition of remains</td>
<td>____________ Date______________</td>
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By ____________________________ M.D
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<th>APPLICANT</th>
<th>LEAVE BLANK</th>
<th>TYPE OR PRINT ALL INFORMATION IN BLACK</th>
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<tr>
<td>LAST NAME</td>
<td>NAME HAM</td>
<td>FIRST NAME MIDDLE NAME</td>
</tr>
<tr>
<td>SIGNATURE</td>
<td>OF PERSON</td>
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<td>ALIASES AKA</td>
<td>O R I</td>
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<tr>
<td>RESIDENCE OF PERSON FINGERPRINTED</td>
<td>CITIZENSHIP</td>
<td>CTZ</td>
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<tr>
<td>DATE</td>
<td>SIGNATURE OF OFFICIAL TAKING FINGERPRINTS</td>
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<td>FBI NO. FBI</td>
<td>ARMED FORCES NO</td>
<td>MNU</td>
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<td>REASON FINGERPRINTED</td>
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<td>REF.</td>
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<td>MISCELLANEOUS NO. MNU</td>
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</table>


LEFT FOUR FINGERS TAKEN SIMULTANEOUSLY | L. THUMB | R. THUMB | RIGHT FOUR FINGERS TAKEN SIMULTANEOUSLY |
# Personal Effects/Clothing Receipt

**Name of Decedent** __________________  
**Case #** __________  
**Age** _______  
**Race** _______  
**Sex** _______

## CLOTHING:
- [ ] Bathrobe
- [ ] Belt
- [ ] Blouse
- [ ] Bra
- [ ] Coat
- [ ] Dress
- [ ] Girdle
- [ ] Handkerchief/Scarf
- [ ] Hat/Cap
- [ ] Hose
- [ ] Jacket
- [ ] Luggage
- [ ] Nightgown
- [ ] Pajamas
- [ ] Shirt
- [ ] Shoes/Boots
- [ ] Shorts
- [ ] Slip
- [ ] Slippers
- [ ] Socks
- [ ] Sweater
- [ ] T-shirt
- [ ] Tie
- [ ] Trousers/Slacks/Jeans
- [ ] Underwear
- [ ] Briefs
- [ ] Boxers
- [ ] Panties
- [ ] Other
- [ ] Other

## PERSONAL EFFECTS:
- [ ] None
- [ ] Wallet
- [ ] Purse
- [ ] No Money
- [ ] Money
- [ ] Bills
- [ ] Change
- [ ] Checks
- [ ] Bracelet(s)
- [ ] Key(s)/Key ring(s)
- [ ] Cigarette Lighter
- [ ] Comb/Brush
- [ ] Necklace(s)
- [ ] Credit Card(s)
- [ ] Personal Papers
- [ ] Dentures
- [ ] Pocket Knife
- [ ] Driver’s license/ID Card
- [ ] Ring(s)
- [ ] Earring(s)
- [ ] Other
- [ ] Glasses
- [ ] Watch
- [ ] Pocket Knife
- [ ] Ring(s)
- [ ] Earring(s)
- [ ] Other
- [ ] Glasses
- [ ] Watch
- [ ] Pocket Knife
- [ ] Ring(s)
- [ ] Earring(s)
- [ ] Other

I received all of the clothing and personal effects listed above from the Office of the Chief Medical Examiner.

**Date:** ________________  
**Time:** ________________  
**Signature or Person Receiving Material:** ________________

**Released by – OCME** __________________  
**Type or Print Name:** ________________

**Firm/Organization/Relationship:** ________________

**Form No.** ______  
**White copy – File** ______  
**Yellow – Funeral Home** ______  
**Pink – Medical Examiner** ______

27
Skeletal Diagrams and Inventory
### SKELETAL INVENTORY

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<td>3-6 Cervical</td>
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<td>Right Ribs</td>
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<td>Patella</td>
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### APPENDICULAR

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<td>epi-p/ prox/ mid/ dist/ epi-d</td>
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### EXTREMITIES

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<td>___</td>
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<td>Medial Cuneiform</td>
<td>___</td>
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<td>Intermed. Cuneiform</td>
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</tr>
<tr>
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<td>___</td>
<td>___</td>
<td>4th</td>
<td>___</td>
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</tr>
<tr>
<td>5th</td>
<td>___</td>
<td>___</td>
<td>5th</td>
<td>___</td>
<td>___</td>
</tr>
<tr>
<td>C. Phalanges proximal</td>
<td>___</td>
<td>___</td>
<td>T. Phalanges proximal</td>
<td>___</td>
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</tr>
<tr>
<td>middle</td>
<td>___</td>
<td>___</td>
<td>middle</td>
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</tr>
<tr>
<td>distal</td>
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</tr>
<tr>
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<td>___</td>
<td>___</td>
<td>Sesamoids</td>
<td>___</td>
<td>___</td>
</tr>
</tbody>
</table>

**Codes:**
- c = >/= 75% present
- p = 25% - 75% present
- f = <25% present

**NOTES:**

Courtesy of
D. Ubelaker
APPENDIX B. WEBSITES FOR UNIDENTIFIED REMAINS

**National**

http://www.cdc.gov/ncipc/profiles/nvdrs/default.htm

National Center for Missing Adults (NCMA)
http://www.theyaremissed.org/ncma/

National Crime Information Center (NCIC)
http://www.fbi.gov/hq/cjis/ncic.htm
Not open to the public

National Missing and Unidentified Persons System
http://www.NamUs.gov/
A national online repository for missing persons and unidentified dead cases
The NamUs initiative brings together two innovative programs and their online, searchable databases: IdentifyUs.org and Find-the-Missing.org

The Doe Network
http://www.doenetwork.org/
International Center for Unidentified & Missing Persons

Unidentified Decedent Reporting System (NamUs/UDRS)
http://identifyus.org/
National Association of Medical Examiners

**State and Local**

Clark County Coroner
http://www.accessclarkcounty.net/CORONER/unid.htm
Las Vegas Unidentified

Colorado Coroners Association
http://www.coloradocoroners.org/
Unidentified bodies.

Florida Unidentified Decedents Database
http://www.fluiddb.com/
Cases from Florida

Florida’s Unidentified Deceased Initiative
http://www.fdlc.state.fl.us/cjst/mec/identifyingunidentifieddeceased/identifyingdeceased.html
Fulton County Medical Examiner's Office: Unidentified Victims' Listings
http://www.fcmeo.org/UIDTrifold.htm
Fulton County Medical Examiner's Office, Atlanta, Georgia

Georgia Unidentified Remains
http://www.ganet.org/gbi/uidlist.cgi/
Cases from the Georgia Bureau of Investigation

Illinois State Police - Unsolved Cases
http://www.isp.state.il.us/crime/unsolved.cfm
Unsolved Cases and Missing Persons

Iowa Unidentified Persons and Bodies
http://www.dps.state.ia.us/DCI/Unidentified_Bodies/index.shtml
Iowa Department of Public Safety

John and Jane Doe Case Files
http://www.ocsd.org/
Coroner's Division of the Orange County Sheriff-Coroner
Santa Ana, California.

Los Angeles County Coroner
http://coroner.co.la.ca.us/htm/uipsearc.cfm
Los Angeles, California

Kentucky Office of the State Medical Examiner’s Unidentified Remains Database
(http://www.unidentifiedremains.net)

LSU FACES Lab
http://www.lsu.edu/faceslab/
Louisiana State University - Forensic Anthropology

Maripoca County Sheriff Office
Maripoca County, Arizona

Maryland Missing Persons Network
http://www.marylandmissing.com/home.html

New York State's Unidentified
http://www.troopers.state.ny.us/Wanted_and_Missing/Unidentified/
New York State Police

NYPD Unidentified Persons
New York Police Department
PSP Files
http://www.psp.state.pa.us/psp/cwp/browse.asp?a=3&bc=0&c=20795
Pennsylvania State Police

Riverside County Sheriff / Coroner's Office
http://www.riversidesheriff.org/coroner/unidentified/index.html
Riverside County, California

South Carolina Unidentified Persons
http://www.sc-coroners.org/Unidentified_Bodies.htm
South Carolina Coroner Association

Texas Unidentified Persons
http://www.txdps.state.tx.us/mpch/
Texas Missing Persons Clearinghouse

The Chattanooga, Hamilton County Medical Examiner
http://www.hamiltontn.gov/MedicalExaminer/intro.htm
Chattanooga, Tennessee, Hamilton County Medical Examiner

Unidentified Bodies
http://www.co.camden.nj.us/sheriff/unidentified%20bodies.htm
Office of the Sheriff, Camden County, New Jersey.

Unidentified Human Remains
http://members.aol.com/stevenkl/remainsn.htm
Michigan State Police Crime Laboratory

Unidentified Persons
http://www.co.larimer.co.us/coroner/coronerUDP.htm
Larimer County Medical Examiner's Office, Colorado

Unidentified Remains.Net
http://www.unidentifiedremains.net/
Kentucky State Medical Examiner's Office

INTERNATIONAL

Ontario Provincial Police
Ontario, Canada

Saskatchewan Missing and Unidentified Persons
http://www.sACP.ca/missing/index.php
Saskatchewan Assoc. of Chiefs of Police, Canada
APPENDIX C. NCIC-UP DENTAL CODING CHARACTERISTICS

NCIC Unidentified Person File
Data Collection Entry Guide

CODING DENTAL CHARACTERISTICS

Letter to Dentist

Dear Doctor:

This section was designed to facilitate the collection of dental data to be entered into the National Crime Information Center (NCIC). These dental data will be compared to dental characteristics stored in the NCIC Wanted Person and Missing Person Files to generate a candidate list of potential matching records. It should take you only a few minutes to complete the NCIC Dental Coding Form if you already gathered the appropriate information concerning the unidentified individual or remains.

Since radiographs are the most widely used comparison medium for the dental identification of unidentified human remains, your experience and expertise in taking and reviewing radiographs plays an important role in the gathering of identification evidence. Guidelines for the specific radiographs that need to be taken are found on page 28 of this packet. Photographs, either conventional or digital, can also be helpful in the identification process as explained on page 28 of this packet.

Because radiographs are two-dimensional, it is also important that you perform a thorough visual examination to record the specific condition of the dentition. A worksheet for your notes in regard to each tooth is also contained in this packet on page 29. Using this worksheet will enable you to combine the information obtained from the visual examination with the information observed in the radiographs to provide an accurate dental profile of those teeth that have been recovered. Once you have completed the worksheet, you can easily transfer your notes to the NCIC Unidentified Person Dental Coding Report found on page 30.

Thank you for your careful completion of this report. Please be sure to retain all dental records for future comparison purposes. You should provide the original (or diagnostic copies of) radiographs, photographs, and documentation to the investigating agency and the medical examiner/coroner of jurisdiction.

If you have any questions regarding the reporting of a condition, contact the FBI's CJIS Division at (304) 625-3000.

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**Dental Data Checklist**

*(to be completed by dentist)*

- Panoramic Radiograph if possible. (See page 28.)
- Full Mouth Series of Radiographs. (See page 28.)
- Photographs of Oral Structures. (See page 28.)
- Completed Dental Conditions Worksheet. (See page 29.)
- Completed NCIC Unidentified Person Dental Report. (See page 30.)
Dental Radiograph Guidelines for Unidentified Remains

- All periapical radiographs should show the complete crown and root tips with surrounding tissue. Avoid elongation and foreshortening as much as possible.
- Radiographs should be taken of region even if teeth are missing.
- Use bisecting angle or parallel technique.
- Obtain panoramic radiographs whenever possible. (Usually only possible in skeletal remains.)
- Submit one set of original radiographs and completed charting to the medical examiner or coroner of jurisdiction.

Guide to Full Mouth Radiographic Series

<table>
<thead>
<tr>
<th>Upper right molar region</th>
<th>Upper right premolar region</th>
<th>Upper right cuspid region</th>
<th>Upper central incisor region</th>
<th>Upper left premolar region</th>
<th>Upper left molar region</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bitewing right molar region</td>
<td>Bitewing right premolar region</td>
<td>Lower right cuspid region</td>
<td>Lower central incisor region</td>
<td>Lower left premolar region</td>
<td>Lower left molar region</td>
</tr>
</tbody>
</table>

Recommended Dental Photographs

Photographs are occasionally used to help identify unidentified persons. This can be done by comparing the alignment and shape of the visible teeth in an antemortem photograph to those same characteristics present in the recovered human remains. Photographic superimposition of the head over photographs of possible candidates may also be useful. Multiple photographs, either conventional or digital are recommended. At a minimum, the following photographic views should be taken:

1. View of Anterior Teeth (cusp to cusp) showing incisal edges and alignment.
2. Frontal View of Head.
3. Right and Left Lateral View of Dentition.
4. Occlusal View of Dentition Upper and Lower.

Rev 2/06
DENTAL CONDITION WORKSHEET
(to be completed by dentist)

You should fill out this chart following the complete visual examination of the dentition and review of the dental radiographs taken of the unidentified individual or remains. You should number the teeth following the format of the Universal numbering system with tooth #1 being the upper right third molar, tooth #16 being the upper left third molar, tooth #17 being the lower left third molar and tooth #32 being the lower right third molar. In your descriptions of the restorations present, you should include the surfaces involved (M, O, D, F, L), the restorative material used, such as amalgam, gold, porcelain, composite, temporary cement, and any other conditions that may be observed, such as endodontic treatment, pin retention, orthodontic brackets or bands. You must not leave any tooth numbers blank. If the tooth has no restorations, note it as “virgin” or “present, no restoration.” Note other significant dental information at the bottom of this chart or on an additional sheet of paper, which you should attach to this worksheet.

|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 1. |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 2. |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 3. |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 4. |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 5. |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 6. |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 7. |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 8. |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 9. |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 10. |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 11. |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 12. |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 13. |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 14. |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 15. |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 16. |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

Additional Dental Information:

Rev 2/06
NCIC Unidentified Person File
Data Collection Entry Guide

NCIC Unidentified Person Dental Report

SECTION 1
ME/Coroner Case #: ____________________________
NCIC #: ______________________________________
Completed by: ________________________________ Date Completed: ____________
Address: ____________________________________
Telephone #: _________________________________ Email Address: _______________________
X-Rays Available? □ Yes □ No Dental Models Available? □ Yes □ No Dental Photographs Available? □ Yes □ No

SECTION 2
DENTAL CHARACTERISTICS

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<td>(T)</td>
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<td>(S)</td>
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<tr>
<td>(C)</td>
<td>(R)</td>
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<tr>
<td></td>
<td>(P)</td>
</tr>
<tr>
<td>Upper Left</td>
<td>Lower Left</td>
</tr>
<tr>
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<td>24 (31)</td>
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<tr>
<td>(F)</td>
<td>(O)</td>
</tr>
<tr>
<td>10 (22)</td>
<td>23 (32)</td>
</tr>
<tr>
<td>(G)</td>
<td>(N)</td>
</tr>
<tr>
<td>11 (23)</td>
<td>22 (33)</td>
</tr>
<tr>
<td>(H)</td>
<td>(M)</td>
</tr>
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<td>21 (34)</td>
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<td>(I)</td>
<td>(L)</td>
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<td>13 (25)</td>
<td>20 (35)</td>
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<tr>
<td>(J)</td>
<td>(K)</td>
</tr>
<tr>
<td>14 (26)</td>
<td>19 (36)</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>15 (27)</td>
<td>18 (37)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>16 (28)</td>
<td>17 (38)</td>
</tr>
</tbody>
</table>

SECTION 3
DENTAL CODES

X = Tooth has been removed or did not develop
V = Tooth is present and unrestored
M = Mesial Surface Restored
O = Occlusal/Incisal Surface Restored
D = Distal Surface Restored
F = Facial or Buccal Surface Restored
L = Lingual Surface Restored
C = Lab Processed or Prefabricated Restoration
R = Endodontic Treatment
/ = Posterior Missing or Not Recovered (Default Code)

(*The codes V and / are used differently in the Unidentified Person Report than in the Missing Person Dental Report.)

SECTION 4
DENTAL REMARKS

□ All 12 teeth are present and unrestored □ UNK (No dental information available)

Rev 2/06 30
General Procedures for Coding the Report
(to be completed by dentist)

Section 1:
- The NCIC # field should be completed by the investigating agency.
- The Medical Examiner/Coroner Case #, Completed by, Date Completed, Address, Telephone #, Email Address, X-Rays Available, Dental Models Available, and Dental Photographs Available fields should be completed by the individual filling out the report.

Section 2:
- If no dental information is available, go directly to Section 4 and check the UNK box. Do not enter any codes in the tooth fields.
- If all 32 teeth are present with no restorations, go directly to Section 4 and check the ALL box.
- Review pages 32 and 33 prior to completing the Dental Characteristics Section of the dental report.
- Tooth numbers are based on the Universal System. The corresponding Federation Dentaire Internationale (FDI) System numbering is depicted in parenthesis.
- Use all available dental evidence to capture the most accurate dental profile.
- Enter the appropriate code(s) next to the corresponding tooth number, 01–32, on the dental report.
- Each tooth must have one or more codes entered except when ALL or UNK is used in Section 4.

Section 3:
- Dental Codes. A more detailed explanation of these codes and their use is provided on page 32.

Section 4:
- Used for coding ALL or UNK.
  - If ALL is marked, NCIC will automatically code all teeth as V.
  - If UNK is marked, NCIC will automatically code all teeth as J. A dental comparison will not be performed by NCIC when this box is marked.
- Used for additional dental characteristics not captured in the dental codes listed in Section 3, for example, dental implants, removable dentures, orthodontic appliances. Specific tooth numbers are not always necessary, and key descriptive words are preferred.
NCIC Unidentified Person File  
Data Collection Entry Guide

Dental Codes and Descriptions

Primary Dental Codes - One or more codes must be entered for each tooth.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>/</td>
<td>Default code for Unidentified Persons. Typically used when the tooth is not recovered. Also used when a portion of the tooth is remaining and it is impossible to determine if the clinical crown has been restored. Note: This code is used differently when coding dental characteristics for Missing Persons.</td>
</tr>
<tr>
<td>V</td>
<td>Virgin. Tooth is present and unrestored. This includes unerupted teeth such as wisdom or deciduous teeth. Note: This code is used differently when coding dental characteristics for Missing Persons.</td>
</tr>
<tr>
<td>X</td>
<td>Missing. Tooth has been extracted or is congenitally missing.</td>
</tr>
<tr>
<td>M</td>
<td>Mesial surface of the tooth has been restored.</td>
</tr>
<tr>
<td>O</td>
<td>Occlusal or Incisal surface of the tooth has been restored.</td>
</tr>
<tr>
<td>D</td>
<td>Distal surface of the tooth has been restored.</td>
</tr>
<tr>
<td>F</td>
<td>Facial or Buccal surface of the tooth has been restored.</td>
</tr>
<tr>
<td>L</td>
<td>Lingual surface of the tooth has been restored.</td>
</tr>
</tbody>
</table>

Secondary Dental Codes - Cannot be used independently. Must be used in conjunction with Primary codes.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>Any laboratory processed restoration including crowns, inlays, onlays, and veneers. This code also includes prefabricated restorations such as stainless steel crowns, metal and acrylic temporary crowns, and porcelain processed veneers.</td>
</tr>
<tr>
<td>R</td>
<td>Root canal. Evidence is available to establish that an endodontic procedure has been started or completed.</td>
</tr>
</tbody>
</table>
Entry Rules for NCIC Dental Characteristics

The following rules apply to each tooth for the successful entry of dental characteristics into NCIC:

1. The DCH Field requires that a code or series of codes be entered for each tooth. The tooth number (01–32) must be followed by option A, B, or C:
   A. One special character /, or one special character / followed by R.
   B. One alphabetic character M, O, D, F, L, X, V.
   C. Two to seven alphabetic characters M, O, D, F, L, C, and R.

2. Any combination of M, O, D, F, L should be entered in the sequence of M, O, D, F, L.

3. The R character should follow any combination of M, O, D, F, L, C or the / character.

4. The C character should follow any combination of M, O, D, F, L.

5. The only character that should be used with / is the R character.

6. The characters V and X should not be used with any combination of characters.

7. The characters M, O, D, F, L, C, /, V, and X may be used only once per numeric.

If you have any questions regarding the reporting of a condition, contact the FBI's CJIS Division at (304) 625-3000.
APPENDIX D. NATIONAL DENTAL IMAGE REPOSITORY

The National Dental Image Repository (NDIR) is available on the Law Enforcement Online (LEO). The NDIR provides an image repository for law enforcement agencies who wish to post supplemental dental images related to National Crime Information Center (NCIC) Missing, Unidentified, and Wanted Person records in a Web environment. This allows for easier access and retrieval of the information by qualified individuals performing dental comparisons. Participation is voluntary. The NDIR is purely an additional tool for persons attempting to more easily identify missing, unidentified, and wanted persons.

Below is a brief explanation of how the NDIR functions:

- Agencies convert their supplemental dental information to electronic format according to the specifications on the website and e-mail the information to NDIR@leo.gov.
- Information can include but is not limited to:
  1) Missing, Wanted, or Unidentified Submission Form
  2) Digitized copy of the NCIC Record
  3) Digitized copy of the Dental Condition Worksheet
  4) Digitized copy of the Dental Report Form
  5) Digitized copies of the available radiographs and miscellaneous digital scans used for identification purposes
- Upon receipt of the information by the Criminal Justice Information Services (CJIS) Division, a member of the NDIR Review Panel is contacted to review the record. (Agencies have the option of declining to have their records reviewed by a member of the NDIR Review Panel. They must indicate they do not want their information reviewed by a member of the NDIR Review Panel upon submission of the information.) The NDIR Review Panel is comprised of American Board of Forensic Odontologists (ABFO), or dentists who have the recommendation of an ABFO odontologist, who have specialized training in the proper coding of NCIC dental records and the comparison/identification of dental records. Members have met all criteria and volunteered to participate in this project. A member of the NDIR Review Panel is e-mailed the information to review the dental coding and determine if the coding is correct. If they agree with the coding, they advise the CJIS Division via e-mail, and the information is posted to the NDIR. If the NDIR Review Panel member determines the NCIC dental record is improperly coded, they liaison with the submitting agency in an attempt to correct inaccuracies.
- The information is returned to the submitting agency for correction and resubmission.
- Records are posted in numerical order by the NCIC number in the NDIR on LEO. Each record contains a copy of each piece of information in the original format as well as a zip file containing all the documentation to allow for the easy download of all the information.
- When a record is cleared from the NCIC, the information is removed from the NDIR and placed in an archive file at the CJIS Division.
- The NDIR also houses data collection guides and forms related to NCIC Missing, Unidentified and Wanted Person entries.
- The NDIR may be found by clicking on the following from the LEO Homepage:
  - LEOSIGS
  - Public LEOSIGS
  - CJIS
  - National Dental Image Repository

LEO is a secure website that requires a user name and password to access. It is available free of charge to members of the law enforcement, medical examiner and coroner communities working to identify the missing and unidentified. For further inquiries regarding the NDIR, LEO, or to obtain a LEO application, contact Mrs. Stacey C. Davis, (304) 625-2618 or send an e-mail request to ndir@leo.gov. Applicants will receive their LEO user name and password in approximately three weeks.
APPENDIX E. THE NATIONAL MISSING PERSON DNA DATABASE

Background:
In 2000, the FBI Laboratory Division began developing the National Missing Person DNA Database (NMPDD) Program for the identification of missing and unidentified persons using the FBI's Combined DNA Index System (CODIS). The NMPDD contains three indices in which missing and unidentified person DNA profiles can be entered: Biological Relatives of Missing Persons, Unidentified Human Remains and Missing Persons.

The DNA Analysis Unit 1 (nuclear DNA) and the DNA Analysis Unit 2 (mitochondrial DNA) in the FBI Laboratory, as well as the FBI Laboratory’s four Regional Mitochondrial DNA Laboratories, perform DNA analysis on samples from Unidentified Human Remains and Biological Relatives of Missing Persons. The NMPDD provides investigators with an opportunity to identify missing and unidentified persons on a national level.

In addition to processing cases, the FBI Laboratory has been active in educating the forensic and law enforcement communities about the value of this program to investigators of missing person cases. Presentations detailing the purpose of the program and submission guidelines have been provided to various agencies and organizations including the National Association of Medical Examiners, International Homicide Investigators, and the FBI’s Child Abduction Rapid Deployment Team. The FBI Laboratory has also participated in a series of conferences concerning the identification of missing persons sponsored by the National Institute of Justice which targeted a diverse audience ranging from law enforcement, forensic scientists, coroners, medical examiners, and family members of the long-term missing.

Submissions:
All agencies must contact one of the FBI’s Missing Person Program Managers at the FBI Laboratory before submitting samples. These cases will then be analyzed at the FBI Laboratory or at one of the FBI Laboratory’s Regional Mitochondrial DNA Laboratories. It is incumbent upon the submitting agency to have the necessary completed forms and information needed for sample submission. The FBI, in cooperation with its Regional Labs, will perform the mitochondrial DNA and nuclear DNA (STR) analysis on samples. If Short Tandem Repeat (STR) profiles were developed and uploaded to NDIS by a local or state CODIS laboratory, the specimen identification number for STR profiles that were uploaded should be included in the incoming communication.

Information is needed for each specimen submitted. All samples submitted to the FBI Laboratory or Regional Laboratories must have an incoming letter describing the samples submitted. A copy of the anthropology, odontology (dental), Medical Examiner and/or Coroner reports must be included with submitted unidentified human remains samples.
Samples submitted from biological relatives of missing persons must be collected with law enforcement present at the time of collection for confirmation of personal identification of the donor and completion of the Consent and Information Form for the National Missing Person DNA Database.

Each submitted case must be packaged separately.

Please write 'EVIDENCE' near the mailing label to designate that the package has evidentiary material in it.

Unidentified human remains must be sent by a carrier that can track the package (FedEx or U.S.P.S. registered mail, for example).

All samples will be analyzed for missing person identification purposes only. Once the samples have been analyzed, the DNA profiles will be entered into the database by FBI Laboratory or Regional Laboratory staff and a Laboratory report will be sent to the contributor. A portion of the sample will be stored in the NMPDD repository for archival purposes and the remainder of the sample will be returned to the contributor.

Samples from Biological Relatives of Missing Persons

Samples from biological relatives of missing persons can be collected using the FBI Blood Cell Collection kits which are available upon request. Prior to sample collection from a maternal and/or closely related biological relative(s) of the missing person, a Consent and Information Form must be completed (this form is included in each FBI Blood Cell Collection kit). Samples collected from a maternal and/or closely related biological relative(s) of the missing person must be blood or buccal cells. To avoid confusion, all samples should be labeled with the donor's name and the NCIC (National Crime Information Center) number or ViCAP (Violent Criminal Apprehension Program) number.

Samples recommended for submission which are known to have originated from the missing person are: blood, buccal, tissue specimens (medical biopsy samples), teeth (baby or adult), and/or hair. Other samples may also be useful for laboratory analysis, but should be discussed with laboratory personnel prior to submission.

The following is a list, in order of preference, of persons from which samples can be collected:

1. Missing Person
2. Biological Mother
3. Biological Father (with mother)
4. Biological Child
5. Biological Sibling (sister/brother)
6. Maternal Relative
7. Paternal Relative
Blood or buccal cells are the prescribed samples which must be collected from the above-mentioned biological relatives. The FBI Blood Cell Collection kits are available for this collection upon request. It is important that all individuals handling the samples wear disposable gloves and do not come in close physical contact with the sample to prevent contamination of the sample.

**Blood Cell Samples**
The FBI Blood Cell Collection kits have all of the materials needed to collect a sample with a finger stick. **A letter from the law enforcement agency witnessing the collection must be included with the sample. The letter must have a contact name and phone number.** The donor can use the collection kit without aid from the witnessing law enforcement personnel.

**Buccal Cell Samples**
Three to four buccal (oral) swabs should be submitted. Individuals who are submitting buccal cell samples must not have consumed food or drink; chewed gum; or chewed, dipped, or smoked tobacco products for at least 15 minutes prior to the sample(s) being collected. Buccal swabs must be taken using sterile cotton-tipped applicators. The swabs are pressed against the inside of the donor’s cheek and rubbed while exerting pressure in a circular motion. The intent is to scrape and trap cells that are on the inside surface of the mouth. Buccal swab samples should be air-dried before placing them back into their original paper sleeve and sealed with evidence tape.

All samples must be air-dried prior to packaging. Information about the donor that is submitted with the buccal cell sample should be recorded onto the Consent and Information form and the incoming communication.

**Unidentified Human Remains**
The types of unidentified evidence to be collected for analysis and entry into the database will include skeletal samples, teeth and/or tissue samples from human remains. Samples from amnesia victims, infant abduction victims, or other memory- or mentally-challenged individuals should use the FBI Blood Cell Collection kit or buccal swabs. All human remains submissions must be accompanied by a letter on agency letterhead and an anthropology report or odontology report. Medical Examiner or Coroner reports will be accepted. FBI Bone Collection Kits are available upon request. To avoid confusion, all sample bags or containers should be labeled with the local law enforcement case number and the name of contributing agency. Send each case separately (multiple bones for a set of human remains need to be together) with the appropriate documentation.

**Skeletal Samples**
All skeletal samples must be accompanied by a written anthropology report, preferably from a member of the American Board of Forensic Anthropology (ABFA). Medical Examiner or Coroner reports will be accepted.

Three bones will usually be sufficient in most unidentified human remains cases (femur, rib and arm bone). To prevent contamination, it is **important that the bones not be cut**
by the medical examiner, coroner or anthropologist. Skeletal samples are listed in order of preference:

- Femur (upper leg bone)
- Long Bones (Tibia, Humerus, Fibula, Ulna or Radius)
- Foot Bones
- Skull and/or Mandible (Lower Jaw)
- Hand Bones
- Vertebrae
- Ribs
- Pelvis

All skeletal samples should be placed into the FBI’s Bone Collection Kit or a paper bag, sealed with evidence tape, and protected with padding prior to shipment.

**Teeth**

All teeth and dental samples must be accompanied by a written report prior to submitting the samples. The FBI Laboratory prefers a report by a member of the American Board of Forensic Odontology (ABFO). Medical Examiner or Coroner reports will be accepted. There are two envelopes in the FBI Bone Collection Kits for the submission of teeth.

The teeth which will be accepted are listed below in order of preference. The FBI Laboratory prefers teeth which have not been restored (no dental work performed on the tooth), powdered or cut. Only whole teeth will be accepted due to contamination concerns.

- Unrestored Molar
- Unrestored Premolar (Bicuspids)
- Unrestored Cuspid (Canine Tooth)
- Unrestored Anterior Tooth (Front Tooth / Incisor)
- Restored Molar
- Restored Premolar (Bicuspids)
- Restored Cuspid (Canine Tooth)
- Restored Anterior Tooth (Front Tooth/Incisor)

All teeth and dental samples can be placed into a small coin envelope or plastic bag when they are completely dry. (Each tooth should be placed into a separate envelope or bag.)

Any questions regarding case submission for mitochondrial DNA analysis for missing person cases should be forwarded to the DNA Analysis Unit II Missing Persons Program Manager, Dr. John E. B. Stewart, at telephone number (703) 632-7582 or the DNA Analysis Unit II Regional Mitochondrial DNA Laboratory Program Manager, Dr. Catherine E. Theisen, at telephone number 703-632-7578. Questions regarding nuclear DNA analysis for missing person cases should be forwarded to the DNA Analysis Unit I Missing Persons Program Manager, Eric Pokorak at telephone number (703) 632-7586. Questions may also be directed to regional.mtdna@ic.fbi.gov.