



CONTACTS:

FBI Laboratory Evidence Control:
(703) 632-8360

Forensic Anthropology Program:
(703) 632-8449

Post-Mortem Imaging:
(703) 632-8449

DNA Analysis:
(703) 632-8446

ViCAP:
(703) 632-4254

National Crime Information Center:
(304) 625-3000

National Dental Image Repository:
(304) 625-2618

Federal Bureau of Investigation
FBI Laboratory Division
Quantico, Virginia

U.S. Department of Justice
Federal Bureau of Investigation



UNIDENTIFIED REMAINS AND MISSING PERSONS





UNIDENTIFIED REMAINS AND MISSING PERSONS

STEP BY STEP CHECKLIST



Each year, thousands of individuals are reported missing and hundreds of unidentified bodies are discovered. The FBI offers a combination of forensic techniques, investigative methods and database management to assist with missing persons and unidentified remains cases. Law enforcement agencies, Coroners and Medical Examiners can submit evidence and crime information to the FBI for analysis.

This booklet is meant to assist agencies in determining what examinations and investigations can be provided by the FBI for cases involving both missing persons and unidentified human remains. Agencies interested in submitting information or evidence for any or all of the following topics are encouraged to contact the FBI for information.

Unidentified Remains

- ☐ Entry of case into NCIC
- ☐ Autopsy / Anthropology examination
- ☐ Odontology examination
- ☐ Generate nuclear DNA profile for entry into CODIS
- ☐ Generate mitochondrial DNA profile for entry into CODIS
- ☐ Produce Facial Approximations/Photographic Retouches
- ☐ Entry of case into ViCAP

Missing Persons

- ☐ Entry of case into NCIC
- ☐ Collect relevant identification information
- ☐ Collect DNA profiles of relatives for entry into CODIS
- ☐ Entry of case into ViCAP



THE NATIONAL DENTAL IMAGE REPOSITORY (NDIR)

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.

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 includes:

- 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 FBI's Criminal Justice Information Services (CJIS) Division, a member of the NDIR Review Panel will be contacted to review the record. Once a record packet is reviewed and approved, it will be posted by the NCIC number in an electronic folder under the Missing and Wanted Person area or the Unidentified Remains area of the NDIR on LEO. Each record will contain 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.

The NDIR also houses data collection guides and forms related to NCIC Missing, Unidentified and Wanted Person entries, a place for frequently asked questions, and a registry of trained dentists willing to voluntarily assist law enforcement agencies.

If you would like more information regarding the NDIR,
please contact FBI CJIS Division at (304) 625-2618.

THE NATIONAL CRIME INFORMATION CENTER

The National Crime Information Center (NCIC) is a nationwide, computerized, information system established as a service to all criminal justice agencies and authorized non-criminal justice agencies.

The goal of NCIC is to help the criminal justice community perform its duties by providing and maintaining a computerized filing system of accurate and timely documented, criminal justice information readily available to as many authorized agencies as possible.

The NCIC is comprised of several files containing person and property records. Two of these files are the Missing Person and Unidentified Person Files. The Missing Person File contains personal identifying information pertaining to individuals declared missing. The Unidentified Person File contains information on individuals who cannot ascertain their identity or who have been found deceased.

Each time a new record is entered or modified in the Missing or Unidentified Person File, the personal identifiers and dental characteristics in the record are compared to the personal identifiers and dental characteristics contained in all records in the complementary file. The morning after an entry or modification of the record, NCIC generates two lists of possible matching records - one for records with matching personal descriptors and one for records with matching dental characteristics. NCIC notifies agencies, via NCIC messages, if one of their records is a possible match to a record in the complementary file.

There are six Missing Person (MP) categories of entry into NCIC. They are Disabled, Endangered, Involuntary, Juvenile, Catastrophe Victim, and Other.

There are three Unidentified Person (UP) categories of entry into NCIC. They are Catastrophe Victim, Deceased person, and Living person who is unable to ascertain his or her identity.

Use of the FBI's NCIC Data Collection Entry Guides will facilitate a complete NCIC record entry. When accurate and complete information is collected and entered into NCIC for missing and unidentified persons, the cross-match will be more productive.

The FBI is offering assistance to state and local law enforcement agencies with the entry of records into the NCIC Unidentified Person File. DOJ estimates that there may be as many as tens of thousands of unidentified human remains across the country. However, NCIC currently contains only 7,000 Unidentified Person File records due to agencies inability to gain access to NCIC, agencies lack of resources, or unfamiliarity with the record entry procedures.

For more information, please contact the
NCIC Investigative and Operational Assistance Unit at (304) 625-3000.

ANTHROPOLOGY

VICAP SERVICES

Services currently offered by the Forensic Anthropology Program include both laboratory analysis and field assistance. Laboratory analyses include determining if a specimen is bone, determining human versus non-human origin, estimating age, sex, ancestry and stature, interpreting the timing and type of trauma (i.e., ballistic, sharp force, blunt force, thermal), resolving commingling, and coordinating facial approximations. Field assistance includes detection and recovery of remains as well as preliminary analyses (such as human versus non-human).

The Laboratory will accept skeletal evidence submitted by a duly authorized law enforcement agency for any examinations that may lead to the identification of a victim or a suspect, or provide other probative information in a criminal case. The Program will not accept cases previously examined by another anthropologist except in cases where the requested examination has not yet been conducted (such as facial approximation requests).

For additional questions or to submit evidence for anthropological examinations, contact the Forensic Anthropology Program at (703) 632-8449.



- **CRIME ANALYSIS** – Conduct comprehensive case analysis of investigative data and provide timely and relevant information to investigating officers. Employ a variety of data analysis techniques and tools including the FBI-ViCAP national database, internal government data sources, global public data sources, and geographical mapping systems. Prepare and disseminate findings in the form of comprehensive Crime Analysis Reports (CARs).
- **NATIONAL VIOLENT CRIME DATABASE (ViCAP WEB)** – Operate and maintain the FBI-ViCAP national violent crime database. Develop and maintain collection requirements to support investigative analysis. Provide operational and technical assistance.
- **INFORMATION DISSEMINATION** – Create and disseminate national bulletin alerts notifying law enforcement agencies across the nation of known violent offenders, unsolved violent crime series, and missing and unidentified human remains cases.
- **CRIME MAPPING** – Prepare computerized crime mapping products to display crime data and timeline information.
- **CASE SERIES MATRICES** – Create worksheets and matrices which concisely and accurately highlight common characteristics, traits, and features associated with potentially related crimes. Create case linkage spreadsheets which allow investigators to compare a number of cases and identify similarities or differences.
- **TIMELINES** – Develop timelines regarding subject and/or victim travel, activities, criminal history, associates, and geographical locations to assist investigators in identifying the whereabouts of the individual as they relate to the crime and to assist in linking known offenders to similar, unsolved crimes.

FBI-VICAP

Established by the Department of Justice in 1985, FBI-ViCAP serves as the national repository for the following types of crimes, whether or not the offender has been arrested or identified:

- Homicides (and attempts), especially those that involve an abduction, are apparently random, motiveless, or sexually oriented, or are known or suspected to be part of a series.
- Sexual Assaults, especially those committed by a stranger, or those known or suspected to be part of a series.
- Missing Persons where the circumstances indicate a strong possibility of foul play and the victim is still missing.
- Unidentified Human Remains where the manner of death is known or suspected to be homicide.

MISSION

The primary mission of the Violent Criminal Apprehension Program (ViCAP) is to provide criminal investigative and analytical support to federal, state, and local law enforcement agencies. This support includes the collection and examination of case information, multi-agency coordination, and the creation of analytical products. One of the cornerstones of the program is the continued development and maintenance of ViCAP Web, the nationwide investigative database of homicides, sexual assaults, missing persons, and unidentified human remains.

THE FBI-VICAP PROCESS

ViCAP Web provides authorized users with direct, real-time access to the national violent crime database. Users have the ability to enter their own case information and retrieve information about other similar cases.

Law enforcement agencies that would like to have access to ViCAP Web must take the following steps:

1. SELECT an agency point of contact to serve as the link between FBI-ViCAP and the users within the agency.
2. OBTAIN individual LEO accounts for all users (www.leo.gov).
3. CONTACT FBI-ViCAP via vicap@leo.gov to request access to the ViCAP Web.

All criteria cases remain in the FBI-ViCAP national database indefinitely and are compared continually against all other cases. Crime analysts are assigned individual cases for more in-depth analysis based on geographic areas of responsibility.

POST-MORTEM IMAGING



RECONSTRUCTIVE DRAWING FROM UNIDENTIFIED HUMAN REMAINS

When unidentified human remains are submitted to the FBI Laboratory, Forensic Artists in the Forensic Imaging Unit work closely with Examiners and Forensic Anthropologists to prepare drawn or sculpted facial approximations in an effort to identify the victim.

PHOTOGRAPHIC AND POST-MORTEM RETOUCHES

Images of unidentified victims suffering from extensive facial damage due to explosion, fire, exposure or mutilation, are painstakingly retouched to provide investigators with acceptable photos for identification.

CODIS

The FBI Laboratory's Combined DNA Index System (CODIS) began as a pilot software project in 1990 serving 14 state and local laboratories. The DNA Identification Act of 1994 established the FBI's authority to maintain a National DNA Index System (NDIS) for law enforcement purposes. Today, over 190 public law enforcement laboratories participate in NDIS across the United States. Internationally, more than 90 law enforcement laboratories in over 50 countries use the CODIS software for their own database initiatives. International laboratories using the CODIS software do not have any connectivity to the United States CODIS system.

Crime

CODIS generates investigative leads in cases where biological evidence is recovered from the crime scene. Forensic profiles are searched based on results obtained from nuclear DNA analysis using the 13 core CODIS STR loci. Matches made among profiles in the Forensic Index can link crime scenes together; possibly identifying serial offenders. Once a match is confirmed, police from multiple jurisdictions collaborate and share the leads they developed independently. Matches made between the Forensic and Offender Indexes provide investigators with the identity of a suspected perpetrator(s). Since names and other personally identifiable information are not stored at NDIS, qualified DNA analysts in the laboratories sharing matching profiles verify the match and provide the identifying information.



SEVERAL
Indexes Categorize the Profiles Entered into CODIS

Forensic

DNA profiles developed from crime scene evidence, such as semen or blood stains attributed to the putative perpetrator of the crime

Convicted Offender

DNA profiles of individuals of convicted of crimes

Arrestee

DNA profiles of arrested persons (if state law permits the collection of arrestee samples)

Missing Persons

DNA reference profiles from missing persons

Unidentified Human Remains

DNA profiles developed from unidentified human remains

Biological Relatives of Missing Persons

DNA profiles voluntarily contributed from relatives of missing persons

Pedigree Tree

A graphical representation of the relationship between the missing person and two or more relatives

nuclear DNA

Nuclear DNA is located in the nucleus of the cell and can be found in evidence samples such as blood, semen, bone, cigarette butts, clothing, hats, weapons, bottles, envelopes, etc. It is inherited from both the mother and the father.

Nuclear DNA analysis targets areas of human nuclear DNA called Short Tandem Repeats (STRs). These regions of DNA have no known association with medical conditions, defects or physical characteristics. CODIS allows for the entry of STR loci into indexes seen above. Nuclear DNA analysis also contains a subcategory of analysis associated with paternal lineage. Y-STR analysis targets areas of the nuclear DNA passed only from father to son. While this method of analysis is not unique to a specific individual, Y-STRs are used in conjunction with STR data for Missing Person cases at NDIS. For questions concerning nuclear DNA analysis, please contact the DNA Casework Unit at (703) 632-8446.

mt DNA

Mitochondrial DNA (mtDNA) is found in the mitochondrial of the cell. It is inherited only from the mother.

Mitochondrial DNA is generally extracted from biological items of evidence such as hair, bone and teeth. Typically, these samples contain low concentrations of degraded DNA, often making them unsuitable for nuclear DNA examinations. The aspect of maternal inheritance is useful in missing persons cases where direct DNA reference samples are often not available. Because multiple individuals can have the same mtDNA type, unique identifications are not possible using only mtDNA analyses. CODIS allows for the entry of mtDNA only in the missing persons related indexes. For questions concerning mtDNA analysis, please contact the DNA Casework Unit at (703) 632-8446.

For more information, please see the CODIS and NDIS Fact Sheet at <http://www.fbi.gov/about-us/lab/biometric-analysis/codis/codis-and-ndis-fact-sheet>.

Missing Persons



In 2000, the FBI Laboratory developed the National Missing Person DNA Database (NMPDD) Program for the identification of missing and unidentified persons. STR, Y-STR, and mtDNA data can be entered into the missing persons indexes of CODIS. Enhancements to kinship analysis for missing persons data and mass disaster events were a top priority during the development of the Next Generation CODIS software. First implemented in 2008, these enhancements provide investigators with a powerful tool in the identification of missing and unidentified persons on a national level. Relatives of missing persons can be combined into Pedigree Trees for more thorough analysis. Metadata can be captured to allow non-genetic information to aid in the identification process. And the evaluation of multiple DNA technologies can assist in the reconstruction of maternal and paternal lineages. These aspects of CODIS have proven to be successful on both the national and international level assisting in Missing Person and Disaster Victim Identification programs. For questions concerning missing persons case submissions, please contact the DNA Casework Unit at (703) 632-8446.

NMPDD uses Multiple Indexes in NDIS

to enter DNA profiles that can be searched against each other

**Unidentified Human Remains
Biological Relatives of Missing Persons
Missing Persons Pedigree Tree**

