



INTERPOL

DISASTER VICTIM IDENTIFICATION GUIDE

ANNEXURE 5

PHASE 3 > AM

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To accurately scope the extent of a disaster from an identification perspective, it is crucial to, as quickly as possible, collect, record and process information regarding injured, missing and deceased persons, as well as individuals otherwise affected by the disaster. This becomes more important as the size of the disaster grows. By doing this, the process of AM collection can begin quickly and be appropriately resourced.

The AM Team integrated within the chain of command is initially tasked with collecting and recording all information relating to individuals who may be regarded as potential disaster victims. Experience gained in previous disaster response operations has shown that the number of reported 'presumed' victims varies and often substantially exceeds the number of 'actual' victims involved.

It is essential, therefore, that further action be carried out based on the presumed victim data pool for the purpose of verifying or disproving the actual total number of missing persons. Continuous comparison with the lists of injured and uninjured survivors can result in a systemic reduction of the presumed number of victims.

The goal of this approach is twofold: a) to ensure that actual cases of missing persons are not overlooked; and b) to list all actual missing persons to facilitate the collection of AM data from relatives based on the corresponding victim lists.

All AM data obtained by the AM Teams should be documented. In this way, it will be possible to

corresponding personal file should therefore be set up for every potential missing person for use in documenting all incoming and outgoing information relating to the individual in question. This personal file should contain a cover sheet with a checklist ("to-do list") of all measures required to obtain AM data. On this checklist, the assigned AM Team keeps a progressive record of measures taken, measures still to be carried out and information that cannot be obtained despite intensive investigative efforts.

AM Teams should ensure that all victim identification data is collected in accordance with the

AM data is collected by the respective assigned specialists as completely as possible and is granted equal value. The non-availability of specific AM data should also be documented. For the purpose of collecting primary identification features, both the usual place of residence and the workplace of each missing person as well as other areas in which the presumed missing person has been, should be treated like crime scenes and thorough, comprehensive and exhaustive searches for evidence conducted. Quality assurance measures should be established to maintain the high standards of AM data required for comparison purposes.

Personnel collecting AM data should be experienced in obtaining detailed reports and should have a

with the yellow INTERPOL DVI AM Forms will need thorough briefings.

Wherever possible, personal (face-to-face) interviews are to be conducted. However, exceptional circumstances may require telephone interviews. The location and timing of the interview will be dependent upon the location of the families of the missing persons, as well as the facilities available.

interviews:

- The interview should commence as soon as possible after the victim's next-of-kin has been officially notified of the incident.
- Prior to the interview, the police officer leading the DVI AM Interview Team should endeavour to contact the next-of-kin or the friends of the missing person to advise them of the need for an interview, explaining why it is needed and to arrange a time and location.
- The place for the interview should be separate and distant from the morgue.
- If an interview cannot be conducted at the home of the next-of-kin or friend, the preferred location is an area that can be closed to the public and/or the media, and a place that ensures the individuals interviewed are provided with private and comfortable surroundings.
- If a time is set for an interview, the DVI AM Interview Team should be sure to arrive at the appointed time, showing both professionalism and courtesy.
- Upon arriving at the interview, the police officer leading the DVI AM Interview Team should introduce each team member to the relatives and friends present. If a speakerphone is used for telephone interviews, each member of the interview team should be introduced to the persons being interviewed.
- The DVI AM Interview Team should ensure that relatives and/or friends are willing to take part in the interview and that they are aware they may request a break at any time during the interview.
- Interviewers should ensure that they always refer to the missing person in the present tense and not in the past tense.
- When requesting specific information relating to the missing persons, the interviewer should refrain from asking personal and intimate specific questions.
- The members of the interview team should make a consistent effort to answer any specific questions asked by interviewees immediately and to the best of their ability throughout the interview. When questions cannot be answered, interviewees should be informed that the information in question will be obtained, if possible, and provided to them at a later date. No question should be ignored.
- Officers should make sure to collect information and materials needed within a single visit if possible to avoid further disturbance. The number of visits should be kept to a minimum.
- If more than one visit is required, the same team should conduct the subsequent visit.
- The following information and/or material should be gathered prior to the conclusion of the interview. If the interview is conducted by telephone, the police officer leading the DVI Ante-Mortem Interview Team should arrange for materials to be collected by the nearest police officer and forwarded to the DVI AM Coordination Centre:
 - All original medical and/or dental records, charts, treatment records, radiographs (x-rays) and mouth guards, etc. in the relative's or friend's possession.
 - Names and addresses of any medical practitioners consulted by the missing person (e.g., Guthrie card data, which is a neonatal blood-screening device).
 - Names and addresses of dentists consulted by the missing person/potential victim.
 - Descriptions of jewellery and property worn by the missing person/potential victim.
 - Recent photographs showing full face, smile and/or teeth, tattoos, etc.
 - Buccal swab or blood sample taken from the biological parents or children of the missing person.
 - Descriptions and/or photographs of any tattoos or other significant physical characteristics.

This includes data or photographs from social media posts such as Facebook and Instagram

- Any object that may contain the friction ridge impressions and/or DNA of the missing person.
- Including such things as toothbrushes and objects that are individual to the person (diaries etc.)
- The DVI AM Interview Team should ensure that a property receipt is issued for any property or material taken from the family or friends of the missing person.
- Consent for DNA testing should be obtained prior to taking any buccal swab or blood sample, pursuant to applicable laws.
- Procedures used in the collection, storage and management of DNA samples should be in compliance with applicable laws.
- The required yellow INTERPOL DVI AM Forms or other AM forms as required by the DVI AM Coordinator should be completed and submitted to the DVI AM Coordination Centre as soon as practicable after the interview.

The DVI AM Interview Team should enter each member's name and designation on the yellow DVI AM Form. The team should deliver or arrange for the delivery of DNA material, original medical or original dental records and radiographs, as well as photographs obtained during or after the interview, to the DVI AM File Section.

- The file should be kept in an envelope or folder to prevent loss of materials.
- The file should have a cover sheet on which the name and gender of the missing person are entered legibly. The cover sheet should also contain a section for use in recording movements of the file.
- The file should contain as much information as possible to assist in identifying the deceased person.
- Files should be monitored regularly for duplication.
- AM records should be forwarded to the AM DVI Centre for translation, transcription and data entry, accompanied by appropriate documentation (yellow INTERPOL DVI AM Forms and identifiers).
- AM records should be released to an officer from the AM DVI Centre and signed for by that officer.
- Any AM records that do not proceed to the AM DVI Centre should be returned to the source from where they were obtained within a reasonable period of time.

In the aftermath of a disaster with significant numbers of victims, the local police office or other approved authorities will contact dentists who are identified as having treated specific missing persons. The following guidelines may be of assistance to police and dentists in obtaining corresponding AM data.

Please note that often dentists do not want to release patients' original records for such purposes. However, this is needed, as the original records are required during a DVI response. It is appropriate for the police officer to suggest that the dentist keep a duplicate of the records and then release the original records for use in the DVI effort. The types of records or objects able to be provided by treating Dentists include:

- All the victim's dental records that are on file in the dental office.
- Conventional and/or digital radiographs of the teeth, jaws and/or skull.
- Dental casts or models.
- Dental prosthesis or other dental devices.

The information listed above is needed to reconstruct the AM dental status of the victim. It is essential to ensure all original treatment records and radiographic images are labelled with the name and date of birth of the patient, as well as dates of treatment, dates of exposure of radiographic images, stamps and signature of the treating dentist including the dentist's contact information (name, address, telephone number and e-mail address).

Speed in acquiring the AM records is of the essence but not at the expense of receiving the best quality original records in the dentist's possession. Requests for dental information and records should be answered immediately by the dentist in question. The dentist should also be requested to suggest other potential sources of data for the missing person, such as a practitioner who the missing person was referred to for specialized care.

Original records should never be released to relatives or other individuals acting on behalf of other authorities or unauthorized organizations. These records are irreplaceable and are critical to successful identification of the missing person. Dental records should be protected against loss by coordinating their seizure from the dentist's office and tracking their movement enroute to the DVI response filing facility.

If the records and materials listed above cannot be obtained from the missing person's family dentist, the following may be other potential sources of information:

- Dental specialists.
- Dental technicians.
- School dental services.
- Hospital dental clinic.
- Hospital biopsy service.
- Dental health insurers.
- Dental records from correctional facilities or social security insurers.
- Military organizations.

Friction Ridge Analysis (Fingerprints, Palms Prints and Footprints)

The prerequisites for the identification of victims based on friction ridge analysis is the availability of viable AM and PM prints together with the expertise of qualified friction ridge experts. Under these circumstances, the internationally recognized Automated Fingerprint Identification System (AFIS) technology can be used effectively and reliably during the request and registration phase as well as the comparison phase.

There are two main types of AM fingerprints; those deliberately taken for identification purposes (relating to a known person – Type 1) and those left in the form of latents in a living environment and on personal belongings (uncertain donor – Type 2). The investigator should be aware of all possible sources of prints. It is also of utmost importance that he/she be sensitive to the potential impact of such an intrusion into the (past) life of a missing person.

The process requires that all available dactyloscopic prints (fingerprints, palm prints and footprints) from a given missing person are obtained with the aid of appropriate evidence collection methods. In cases of missing children, the analysis of fingerprints, palm prints and footprints are of particular importance due to the frequent lack of AM dental records. Documentation should include the type of print, the name of the AM Team member who obtained the print and the location at which the print was obtained. It is also particularly important to record the names of other persons who reside in the household of the individual in question and/or have access to the individual's workplace.

Reference prints should be obtained to avoid confusion regarding the identity of the person who left the prints. It may also be necessary to cross-reference AM files if there are multiple victims associated to the location from where the latent prints are collected. In instances where there are multiple victims from one location (family/co-workers) the match of AM latent prints to a victim is not a positive identification as the latent only connects the victim to the location and will therefore require other information such as DNA.

If possible, it is beneficial for PM prints to be taken to the scene of where AM prints are thought to be for immediate comparison at the scene by a friction ridge expert.

Relatives are often struggling to maintain balance between hope and fear. The search for material for identification purposes confronts them with the possibility/reality of death and disturbs the environment of the missing loved one. Relatives ordinarily want to preserve the integrity of that environment at all costs.

Thus, it is essential to explain the need for the search. The recovery of evidence may make the difference between uncertainty and reconciliation, between years of agony and the opportunity to mourn and achieve closure. It may also help avoid the administrative and financial problems that are commonly associated with unresolved situations.

Type 1 Prints (Registered Prints)

The following are categorised as type 1 prints: -

- Police (local / national) files established for criminal investigation and/or identification purposes; sealed files should not be overlooked.
- Immigration and asylum records.
- Police and civil files maintained in the home countries of immigrants.
- Friction ridge records of native citizens maintained in other countries for persons travelling or transacting business abroad (even CEOs are required to provide fingerprints in certain foreign countries).
- Files maintained by passport offices, motor vehicle departments and other agencies in which a missing person has resided.
- Police records relating to cases in which a missing person has been a witness to, or victim of a crime.
- Prison records.
- Footprints taken from babies after birth at hospitals to prevent misidentification.
- Fingerprint records maintained by maritime authorities.
- Finger/hand and footprints are regularly taken from aircrew.
- Many military organizations obtain footprints from their employees, such as pilots. The feet, which are normally protected by tight fitting boots and socks, will remain intact in many types of disasters.
- Friction ridge records for prominent persons in business or industry maintained on the advice of security firms and insurance companies in anticipation of possible kidnapping or hostage abduction.
- Fingerprints used for biometrics and/or personal identification/verification; such as in access systems, on smartcards, in passports, on personal computers, etc.

This means that an in-depth investigation should be conducted based on the curriculum vitae of the missing person for the purpose of identifying potential sources of registered prints.

Type 2 Prints (Unregistered Prints)

An effort should be made to find additional prints from specific individuals by focusing on their personal belongings. Multiple prints increase the level of certainty.

The search for prints should be expanded to the extent possible, usually dependent on the number of personnel available. An expert can sort out latent prints later. Each latent should be carefully labelled with the relevant information and, if possible, an indication of a possible donor. Destructive detection techniques should be avoided in favour of lifting. Personal belongings should not be damaged, soiled or stained.

All prints should be cross-checked against those of living individuals who have legitimate access to the discovery site. All prints that can be safely eliminated should be excluded from further examination.

DVI teams should not be inundated with excessive quantities of materials or objects. Friction ridge

specialists should seek to assist rather than hinder these teams, as they have countless puzzles to solve and do not need new problems to deal with. 'Inferior' fragments can be saved for later detailed examination if other information provides insufficient clues to a victim's identity.

To avoid confusion, it is important to rule out the possibility that other missing persons (from a different household) may have left prints at the site or on objects under investigation. These may include members of different families travelling together or colleagues from the same workplace who may have handled the objects, papers, etc. in question.

A search for footprints should be considered, as they are as reliable as fingerprints and often less susceptible to damage. The DVI Team should be consulted and advised accordingly.

Type 2 dactyloscopic prints can be found on:

- Magazines likely to have been read by a specific reader (e.g., car and fashion magazines, comic books)
- Recently read books (which should be processed using non-destructive techniques or cleaned after processing).
- Glossy photographs, which may bear excellent prints that can be detected with the naked eye and photographed.
- Car interior mirrors.
- Writing tablets, personal papers and/or appointment books.
- Empty (beer, soft drink) bottles, bottle cases.
- Pottery, vases, plates, etc.
- Batteries in all types of toys and equipment.
- Sewing machines.
- CD and DVD discs and the containers.
- Airline flight tickets left at the airport at boarding e.g., hotel receipts.
- Travel and insurance papers left behind for relatives.
- Tools, equipment and handcrafted objects; paint canisters (as latents) or patches of dried paint.
- Hobby material and objects (e.g., pottery).
- Drawings and paintings (children's finger-paintings).
- Bathroom floor (footprints) and wall surfaces; surfaces in other areas.
- Next to beds, where there may be magazines people have stepped on with bare feet.
- Objects/surfaces at the workplace.
- Other specific spots, such as rooms in (sport) clubs and on (private) training equipment.
- School paperwork.

The likelihood of making reliable identification based on type 1 and type 2 prints increases in proportion with the amount of information available about the missing person's habits and daily routines. Giving relatives an opportunity to talk about these aspects may also serve relatives' needs, while facilitating the search for fingerprints as well.

The collection of AM friction ridge material should be documented in accordance with standard procedures for crime-scene investigation (e.g. list of prints/palm prints, to include descriptions, image numbers, dates and times, names of processing officers, evidence collection methods). A complete description of the site at which the prints were found and the material (object/surface) from which they were taken may be very helpful in establishing a link to a specific missing person. It is also important to ensure that a reference scale is included in every photograph of a friction ridge print.

Prior to forwarding for further evaluation, prints should be assessed regarding their potential usefulness for dactyloscopic identification by an experienced friction ridge expert.

Friction ridge marks should be preserved on site evidence cards in all cases.

DNA analysis is one of the primary methods of identification. Depending on the special characteristics of an incident the approach of the identification procedures will differ. If young people are involved, the remains are severely decomposed or there are fragmented bodies with more body parts, the use of DNA analysis and comparison may be the best method.

Under such circumstances, DNA may be the only primary means of obtaining reliable identification. The decision as to whether DNA analysis is to be performed is taken by the head of the Victim Identification Team in consultation with the appropriate forensic laboratory.

DNA Management Guidelines

AM (AM) samples should be collected as soon as possible for each missing person. Scientists with a background in forensic genetics should be available for training and consultations.

Samples should be obtained in sample collection kits/boxes and be labelled with a unique and traceable bar code.

Sample intake forms and family information should be properly completed and immediately checked for obvious data errors.

The set of loci to be analyzed must be decided in accordance with the scientific community in the countries mostly involved. Notwithstanding this, the number of independent loci and a gender specific locus should be selected as per the jurisdiction in which the event occurs and to which the DVI Commander reports to the governing coronial body in charge of the identification

Identification can be made based on personal DNA samples with a simple, standard software program supported by statistical tables. Identification based on samples taken from blood relatives requires the use of a special program and consultation with experts in DNA analysis.

It is important to realize that language and cultural barriers may have an influence on relatives' willingness to provide DNA samples (the status of "biological relative" should be established).

All laboratories involved should observe standards for international nomenclature (ISFG – International Society for Forensic Genetics) and a standard data exchange format (e.g., the INTERPOL XML format).

AM Reference Samples for DNA

Taking into account the risk of false information, the choice of AM DNA reference samples should be limited to:

- First degree relatives (more than one if possible)
- Typically, parents of or the children of the potential victim
- Blood or biopsy samples from the missing person
- Personal objects that have been used by the missing person.

DNA profiles from first-degree relatives will always give adequate information for matching, except where the social father is not the biological father and in similar situations. In most cases it will also be possible to find and take samples from more than one relative. In certain cases, such as adoption; it may not be possible to obtain DNA samples from biological relatives and reliance will have to be on personal objects only.

NB: It is of paramount importance to understand the biological relationship between the missing person(s) and those providing comparison or reference samples, as there are limitations to the discrimination power of DNA analysis alone. For example, in the case where two siblings of the same gender are missing, DNA comparison of the missing siblings to sample provided by a parent(s) will enable you to determine if the missing siblings are indeed biological children of those providing a comparison sample. However, it will not be able to conclusively tell you which sibling they are. In this scenario other evidence would be required (e.g., dental, anthropological, circumstantial) to make such determination.

AM Samples: Relatives

Prior to actual sample collection, contact should be established with the laboratory responsible for analysis to establish that the sample(s) will be suitable for the analytical procedure used at the laboratory.

Officers assigned to collect AM samples should be aware that the process could be very stressful for relatives. A professional, sympathetic approach is required, and visits should be kept to a minimum.

Sample collection should be accomplished in the least intrusive manner possible. Unless otherwise specified, buccal swabs are taken from the relatives in question. If a blood sample is required, a drop of blood should be extracted from the fingertip and applied to DNA collection card. Officers performing sample collection should be appropriately qualified and trained in the procedure. In some countries, only trained medical personnel are permitted to take blood samples. All required documents should be completed, including an official declaration of consent. The donor should be briefed regarding the reason for taking the sample and its intended use. In addition, the donor should be informed that the sample and the profile will be destroyed once the investigation is completed.

The officer collecting the sample should obtain official proof of identity and confirm the relationship with the presumed decedent from the donor at the time of sample collection.

Types of AM Reference Samples

Preferred samples are:

- buccal swabs
- droplets of blood extracted from the fingertip.

To achieve an optimum match, it is important to obtain samples from donors who are biologically related to the deceased. Proof of a direct biological relationship between the donor and the deceased is essential for the integrity of the process. Suitable donors are listed in order of preference below:

- Biological mother and biological father of the victim
- Biological mother or biological father of the victim and if possible a sibling
- Monozygotic/identical twins
- Biological children and spouse of the victim
- Siblings of the victim (multiple).

Official consent forms should be used when collecting DNA samples from relatives of disaster victims. These forms should contain the following information:

- Legal authorization for sample collection
- Reason for/purpose of sample collection
- Type of sample collected
- Confirmation that the sample is to be analysed and compared with samples from a victim of an "extraordinary disaster"
- Confirmation that all profiles derived from the sample are to be stored in a confidential database used solely for purposes of comparison

Confirmation that the sample and the profile will be destroyed upon completion of the investigation

- Confirmation that the donor has provided the sample voluntarily
- Confirmation – in the case of a blood sample – that the donor has not been bone marrow transplanted or received a blood transfusion within the past 3 months
- Confirmation that there are no medical reasons that would prevent the donor from providing the sample
- Name and signature of the consenting donor
- Confirmation of the donor's identity

- Nature of the specific biological relationship between the donor and the victim
- Name of the person assigned to collect the sample
- Date, time and location of sample collection
- File/reference number of the Victim Identification Team.

Missing Person Blood / Biopsy Samples

Another source to be considered for obtaining high quality, DNA reference samples, is from samples which had been taken for medical examination or similar analysis prior to the deceased's death and stored in a bio-bank or other bio-medical source of DNA (such as hospitals, pathology units, and paternity and blood transfusion laboratories).

A good example is the blood droplets obtained for neonatal screening of various diseases such as PKU (phenylketonuria). The search for AM DNA should therefore include consultation with the potential victim's family doctor to determine whether blood or biopsy samples from the potential victim are available in cases where close biological relatives cannot be obtained.

Guthrie tests/neonatal blood samples are often preserved in many countries. Normally, laws pertaining to the use of samples restrict the use of such samples to research purposes only. However, it may be possible to obtain permission from the relevant authorities to use these samples for purposes of victim identification in cases of disaster.

Each sample must be placed in a separate evidence bag or container that is immediately sealed and labelled.

An official proof of the identity of the sample must be filled in and verified by the physician responsible for the bio-bank or biomedical source.

The officer collecting the sample should also verify a chain of custody report telling where and when the sample was collected.

Missing Person Samples from Property

It is also possible to get reference samples from objects that have been used by the deceased. However, if such victim reference samples are used, it is important to establish from the outset whether the objects processed belonged to and were used exclusively by the individual in question. If the person in question was not the sole user of an object (e.g., hairbrush), the identity of the second or other person/s should be determined, and a DNA sample should be taken from that person/s for purposes of comparison and exclusion. As many objects as possible should be obtained for purposes of AM DNA collection, as it is entirely possible that individual items of evidence will not produce the desired analytical results.

In cases in which victim reference samples are to be collected, it is important to ensure that procedures are structured and coordinated. A central location can be designated for the collection of suitable material obtained from relatives. Alternatively, officers tasked with obtaining ante-mortem samples may travel to victims' homes to search for suitable material for analysis. Wherever possible, more than one object should be selected.

Although victim reference samples are suitable for DNA profiling for purposes of comparison with presumed victims, the risk of cross-contamination resulting in false profiles cannot be excluded.

The following precautions should be taken to minimize the risk of contamination and to preserve the integrity of the materials obtained:

- Each object should be placed in a separate evidence bag or a separate container.
- Every evidence bag should be sealed.
- Bags/containers should be labelled/marked appropriately to preserve the integrity, continuity and identity of their contents.
- A complete list of objects should be prepared for the purpose of documenting the receipt,

transport and return of individual objects.

- Appropriate evidence control methods should be employed to ensure the safety of objects and adherence to chain-of-custody regulations.

Guide to AM Reference Samples

Biological relatives	• Take samples from close biological relatives like parents, children and siblings. If possible, try to get samples from two or more relatives. • Good profiles will be obtained from buccal swabs and blood samples placed on DNA collection card.
Self samples	• Good self DNA profiles can be obtained from: - Extracted baby teeth or extracted third molars (wisdom teeth). - Samples from national bio-banks, bone-marrow donor programs. - Blood droplets obtained during neonatal screening for PKU (phenylketonuria). - Other clinical blood or serum samples - Criminal police databanks, paternity testing laboratories, reference samples from military services members - Samples from sperm banks - Dried umbilical cord - Pathology preparations embedded in paraffin
Personal objects	• Examples of belongings from which it is possible to extract DNA: - Toothbrushes - Razor blades/razors - Hairbrushes and combs - Combs - Lipstick dispensers, deodorant rollers - Used cups and glasses - Used underwear - Cigarette butts and pipes - Motorcycle and other sports helmets, caps and hats - Ear plugs, headphones - Eyeglasses - Jewellery - Wristwatches

Careful and thoroughly prepared documentation of the sample collection process (evidence collection report – chain of custody) is an absolute prerequisite for the matching of a reference sample to a specific missing person.

All sample receipt forms and information received from relatives should be reviewed and immediately corrected where errors exist before data is entered and committed to the matching process.

The corresponding documents and a complete chain of custody record should accompany all samples taken from relatives and direct reference samples from missing persons. Samples and documentation should be forwarded to the laboratory as quickly as possible. The laboratory should exercise utmost care in the handling and storage of these materials and be prepared to return personal items to the submitting police office for release to the family once the identification of disaster victims is completed. Personal items can hold great sentimental value for the families.