



MINIMUM REQUIREMENTS FOR CRIME SCENE INVESTIGATION

A document for emerging laboratories

International Forensic Strategic Alliance

October 2014



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INTERNATIONAL FORENSIC STRATEGIC ALLIANCE

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INTRODUCTION

The International Forensic Strategic Alliance (IFSA) has developed this document to be minimum requirements which will enable emerging forensic providers in developing countries to produce scientific services to the Criminal Justice System.

The purpose of this document is to establish a baseline or starting point that must be followed in order to achieve reliable results. Forensic providers should build on this foundation and strive to continually improve the quality of services provided.

This document describes the minimum requirements for Crime Scene Investigation. It addresses the following framework:

1. Competence of Personnel.
2. Equipment and Consumables.
3. Collection, Analysis, Interpretation, Reporting.
4. Procedures, Protocols, Validation.
5. Quality Management.



FOREWORD

The International Forensic Strategic Alliance (IFSA) is a multilateral partnership between the six regional networks of operational forensic laboratories:

- the American Society of Crime Laboratory Directors (ASCLD)
- the European Network of Forensic Science Institutes (ENFSI)
- the Senior Managers of Australian and New Zealand Forensic Laboratories (SMANZFL)
- the Academia Iberoamericana de Criminalística y Estudios Forenses (AICEF)
- the Asian Forensic Sciences Network (AFSN)
- the Southern Africa Regional Forensic Science Network (SARFS)

and works closely with its two strategic partners, United Nations Office on Drugs and Crime (UNODC) and INTERPOL.

IFSA recognises the importance of a quality management framework in forensic laboratories to provide quality and standardised results, be it procedures undertaken in the field or in the laboratory.

In February 2012, at the special IFSA meeting hosted by UNODC and convened in Vienna to discuss the needs of the emerging forensic laboratories in developing countries, a decision was taken to create a set of minimum requirement documents (MRD) filling the gap in recommendations available for the current management of these laboratories.

The first series of three documents in the specific areas of identification of seized drugs, DNA analysis, and crime scene investigation have been created. These documents have focused on the critical quality areas, using simple terms and illustrations as well as a glossary to guide the users through the important concepts of the documents.

These documents are meant to act as a start-up guide for emerging forensic laboratories to quickly establish their quality management system and scientific/technical capabilities. Once achieved, the laboratories should continue to build on this foundation and strive to continually improve the quality of services through undergoing accreditations to established standards.

In the drafting of these documents, scientific working groups and experts from the six regional forensic science networks, as well as IFSA strategic partners, made valuable contributions during the various rounds of consultation. The final MRD documents presented in this series would not be possible without the involvement of all.

It is IFSA's hope that these documents will play an important role for emerging forensic laboratories in their journey towards building quality forensic services.

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1 COMPETENCE OF PERSONNEL

All staff must have a clear understanding of their duties and responsibilities and should fulfil these at all times according to a code of ethics¹ (see the examples in the footnote below) adopted by the laboratory.

Those attending and processing a crime scene should have the relevant skills, knowledge and experience to ensure that:

- They are as fully informed as possible of the circumstances of the incident;
- Accurate records (e.g. notes and photographs) are taken throughout and retained;
- The appropriate items (e.g. contact traces/physical evidence) are located and recovered;
- The integrity of the scene and any items collected are maintained; and
- A report is made of the examination and any relevant findings.

The skills and knowledge required will vary with the complexity of the crime scene being examined. For more complex crimes, reports should be peer reviewed prior to issue.

1.1 EDUCATION

In addition to initial and ongoing vocational training (see below), crime scene investigators involved in processing scenes of serious or complex crime (e.g. homicides) should be educated to tertiary level, for example, in a science degree or equivalent. The outcomes of such education and training should enable the crime scene investigator to:

- Communicate in a forensic science environment;
- Manage complex forensic investigations;
- Examine crime scenes;
- Record incident scenes and evidence;
- Use and maintain specialist forensic equipment;
- Apply the relevant science to scene investigations;
- Comply with quality systems;
- Apply case management systems;
- Co-ordinate forensic evidence analysis; and
- Prepare and present specialist forensic evidence, verbally and in writing.

¹ Examples of Code of Ethics adopted by regional forensic science networks:

- The American Society of Crime Laboratory Directors (ASCLD) – www.ascld.org
- The European Network of Forensic Science Institutes (ENFSI) – www.enfsi.eu
- The Senior Managers of Australian and New Zealand Forensic Laboratories (SMANZFL) – www.anzfss.org
- The Academia Iberoamericana de Criminalística y Estudios Forenses (AICEF) – www.aicef.net
- The Asian Forensic Sciences Network (AFSN) – www.asianforensic.net

1.2 TRAINING

Planned and structured in-house training programs delivered by experienced practitioners should be available for those involved in processing scenes related to minor or volume crime (e.g. house burglaries or theft of, and from, a vehicle).

This should be practical skills-based training ideally against defined role profiles and occupational standards. Competence should also be assessed at the conclusion of the program.

Minimum requirements include:

- Evidence integrity (e.g. chain of custody and contamination risks);
- Photography/imaging;
- Scene processing;
- Principles of fingerprint science and fingerprint collection;
- Physical evidence collection;
- Principles of DNA and DNA collection;
- Quality management;
- Health and safety issues; and
- Relevant jurisdictional policies and legislation.

This should be supported, initially, by practical familiarity gained through working with experienced personnel at a variety of crime scenes.

2 EQUIPMENT AND CONSUMABLES

The list of equipment and consumables that can be used at a crime scene is extensive. With respect to minimum requirements the following items are very important at major scenes:

- Crime scene tape for marking scene boundaries;
- A scene log for recording those entering and exiting the scene;
- Photographic equipment for recording the scene;
- Measuring equipment (e.g. a tape measure) for taking measurements at the scene;
- A computer or note book for taking notes about actions taken at the scene and items collected;
- Clean and non-contaminated (ideally disposable) equipment for collecting items at the scene (e.g. tweezers);
- Packaging containers (e.g. paper bags, cardboard boxes and screw top plastic containers) for items collected at the scene. These containers should be new;
- Permanent markers or bar codes for labelling the items collected; and
- Appropriate personal protective equipment (e.g. gloves and face masks) to protect the safety of the examiner and the integrity of the evidence.

Use of reagents such as those used for blood detection, presumptive testing and latent fingerprint detection and enhancement must be accompanied by appropriate training and validation tests. Consumables with a specified expiry date (shelf life) must be monitored.

Purchase of new equipment such as light sources used at the scene or in the laboratory must be accompanied by appropriate training and validation/verification.

In all disciplines of forensic science new technologies and methodologies will emerge and the crime scene facility should keep a watching brief on these. For example, newly emerging information management systems will save time and resources if they are employed at the scene with all appropriate information being entered only once.

3 COLLECTION, ANALYSIS, INTERPRETATION & REPORTING

3.1 SCENE ATTENDANCE

A crime scene should be attended as soon as possible following the reporting of the incident. The secured scene (see section 3.3) should be attended by a person with appropriate training, skills and knowledge to process the scene.

3.2 INITIAL ASSESSMENT OF THE SCENE

An initial assessment of the scene requires the crime scene investigator (CSI) to do the following:

3.2.1 Sampling

Discuss with the Officer in Charge (OIC) of the incident and the first officer(s) at the scene (or victim of volume crime):

- The circumstances of the incident;
- The identification of potential physical evidence or observations (e.g. weather conditions and street lighting) important to the OIC of the investigation;
- The existence of potential secondary scenes;
- How long the scene has been controlled and any information about access/interference with the scene prior to it being controlled;
- Has the offender already left the scene;
- Who has entered the scene;
- Path of entry/exit of those persons;
- The collection of the sample marks of those persons if appropriate;
- What (if anything) has been moved/disturbed/removed;
- What hazards may be at the scene;
- The procedures that have taken place to ensure the protection and security of the scene; and
- In the case of a homicide, arrangements for the removal and custody of the body.

3.2.2 Assess Occupational Health and Safety (OH&S) risks and take adequate safety precautions

This requires the CSI to carry out a risk assessment to:

- Assess what articles, persons, situations and areas of the scene could be dangerous or harmful to the CSI and others involved in processing the scene;
- Assess what protective clothing, equipment or actions need to be organised to ensure the safety of those involved in processing the scene; and
- Identify actions taken to mitigate the risks.

3.2.3 Conduct a preliminary visual/physical inspection and evaluation of the scene (i.e. 'walk through')

During a walk through:

- Where appropriate, follow the path of any previous entries by police to the scene;
- Identify possible points of entry and exit by the offender and the location of the incident/activity;
- Identify the area of the scene to be controlled;
- Identify the location of any physical or trace evidence and note the location for protection or collection at a later stage;
- Identify the type, quantity and relevance of any potential evidence; and
- Assess the need for any specialist assistance that may be required.

3.2.4 Take precautionary initial action to prevent loss of evidence by destruction or contamination

Ensure evidence is protected from destruction or contamination by external forces (e.g. human interference, weather and/or animals).

This may require:

- appropriate protection of shoe/tyre prints and bloodstains/splash patterns;
- appropriate protection of clothing and trace evidence (e.g. biological stains and loose fibres and hairs) until time of examination/collection;
- protection of weapon marks or cuts on clothing; and
- Other appropriate protections.

3.2.5 Plan a course of action to process the scene and the evidence it contains

Issues to consider include:

- Consideration of all the information which are readily available;
- Discussing with the OIC of the incident the most urgent tasks (and reasons for the urgency), recording any decisions in a (policy) log;
- Identifying the areas which require detailed examination (consider logistical requirements); and
- Where appropriate, using the 'outside-in' formula (working from the outer perimeter to the centre of the scene) to conduct the examination. The reasons for this include the prevention of contamination and destruction of evidence.

3.3 CONTROL OF THE SCENE

Control of the scene is achieved when the perimeter is secured, a single entry/exit point is managed and the only people in the scene are there under the direction of the person controlling the scene. To do this:

3.3.1 Establish control of the scene

Collaborate with the police officer guarding the scene, or establish control yourself;

Confirm or establish the perimeter and ensure it is secure. It may be necessary to define the boundary and entry/exit point using crime scene tape or other similar material. The boundaries should enclose the furthest, immediate physical evidence connected with the crime scene;

Confirm or establish a guard at the point of entry to/exit from the crime scene and have the guard establish a log. Liaise with the guard in relation to those people who may be given access and those who should be prevented from entering the scene. Ensure the log has the following details of people entering the scene:

- name;
- rank/position;
- reason for entry;
- time of entry;
- time of exit;
- contact details; and
- signature.

Ensure that the guard advises any person entering the scene that they:

- must stay within the delineated entry and exit paths to minimise the loss or contamination of evidence;
- must report directly to the CSI once in the scene; and
- may be required to give evidence in any subsequent court proceedings because of their entry.

Ensure the guard/log keeper understands that if there is any doubt as to the right of entry of any person, he/she must deny their entry until contact is made with the officer in charge of the scene.

3.3.2 Maintain control during examination

Ensure good communication with the police officer guarding the scene, or maintain control yourself.

Ensure that the crime scene barriers/tape/borders are maintained or moved appropriately and that sufficient guards are in place at the barriers until you have completed processing the scene.

Liaise with the OIC of the investigation to ensure relief for the barrier guard is organised, if required.

3.3.3 Formal release of the scene

Release of the scene can be either:

- release to the OIC of the investigation; or
- release to the normal occupant (with approval from the OIC of the investigation).

Regardless of to whom a scene is released, accurate notes are required in relation to the date/time and identity of people involved in the release.

NOTE: While the release of the scene is part of the control process, the scene should not be released until all processes (e.g. examination, recording and collection) have been completed.

3.4 EXAMINATION OF THE SCENE

An examination of the crime scene requires the following:

3.4.1 Apply the principles defined in the ‘Principle of Exchange’ and Interpretation phase

The ‘Principle of Exchange’ is based on the notion that ‘When any two objects come into contact, there is always a transfer of material from each object onto the other’. This condition is known as the ‘Principle of Exchange’ (Locard, 1928).

Applying this principle to the commission of a crime allows a CSI the expectation of locating something left behind by the offender at the crime scene. It also follows that the offender has taken part of the crime scene with them on departure. This material may be clearly visible, may only be seen under enhancement or it may be microscopic and not visible.

Issues to consider include:

- any physical or trace evidence that will assist in the elimination of a person(s) of interest or in establishing the identity of an offender(s);
- corroboration of statements of parties involved (e.g. victim or witnesses);
- relationship of evidence and relevant observations;
- the sequence of events of the crime including its location and point of entry by an offender(s);
- scenario development including consideration of alternatives; and
- interpretation of, for example, bloodstains and impression evidence (e.g. shoe impressions) to reconstruct events at the scene.

3.4.2 Assess and adopt an appropriate search technique for the crime scene

The search process should be structured to ensure that every area is examined in a methodical, logical and thorough manner (refer to the planned course of action) and that if any interruptions occur, the search can continue effectively. Consideration must be given to situations where:

- the search technique involves enhancement. There are a range of techniques that can be generally grouped as optical (e.g. the use of special light sources), physical (e.g. the use of powder dusting techniques to visualise fingerprints) or chemical (e.g. the use of luminol to visualise bloodstains). It is important that the least destructive methods are used first, before proceeding to destructive methods when necessary; and
- the search technique involves collection.

The examination plan should have identified those areas within the scene that require searching, as well as possible enhancement techniques that may need to be applied. Their application will form part of the overall scene examination.

The search of the scene will be determined by factors such as:

- scene type (exterior or interior scene);
- presence of a body;
- the size of the area;
- the type of terrain;
- the size of the evidence;
- the need to move objects to access others; and
- exceptional circumstances (e.g. unsafe building/flooding).

The searching process should be multi-dimensional in its approach and include, for example, an examination of the floors, walls and ceilings (internal) and ground, trees, roof and other structures (external).

3.4.3 Examine objects and identify their potential as evidence

This includes consideration of:

- foreign items found at scenes which may be linked to an individual and be useful in proving identity of witnesses or suspects;
- items used in the commission of the offence (e.g. weapons) and their condition;

- damage or signs of interference that may be useful in identifying a point of forced entry or exit, or other event/series of events. These may also be useful in identifying the sequence of events;
- the location and/or condition of an object may be more significant than its nature/ description (e.g. furniture which has been upset during the offence); and
- relationships of objects may be important (e.g. similar shoe marks indicating they were made by one individual and may also indicate a walking trail leading to a particular location).

3.4.4 Repeat the search and examination process for secondary scenes

In relation to any crime scene, secondary scenes must also be considered. These can include:

- the offender;
- the victim;
- vehicles used to depart the scene; and/or
- objects or tools taken away from the scene.

Secondary scenes may have trace evidence present, which can provide a link back to the main scene. Therefore, it is incumbent on the CSI to obtain all relevant information in relation to the scene, including secondary scenes. Communication with the investigating officer is vital.

3.5 RECORDING THE SCENE

It is essential that an accurate and detailed record of the scene is established and maintained for immediate and future reference. Recording of a crime scene is achieved through a combination of:

3.5.1 Notes

Detailed and comprehensive notes of the crime scene should be taken at the time of examination and reflect the following:

- time, date, place and weather;
- details of actions taken at the scene(s) by the CSI;
- any information known or suspected to be relevant to the incident;
- details of persons at the scene prior to arrival and their actions at or within the scene;
- all observations made at the scene (detailed scene description);
- records of roles performed at the scene by assisting specialists;
- description of all exhibits located and collected at the scene with accurate records as to where and in what condition they were located;
- measurements of all locations and items of potential evidentiary value;
- any exhibit transfer from the scene, including to whom and date;
- any information uncovered at the scene that is passed on immediately to investigating officers; and
- report of the incident and the scene protection used.

3.5.2 Photographic and video records

Photographs must be taken of all items of significance which accurately record their location within the scene. They will be a vital part of the overall case record and can be supplemented by video recordings and/or 360o imaging.

The types of photographs that should be taken include:

- general shots (interior and/or exterior) that show the location of the scene in relation to identifiable landmarks;
- mid-range shots (interior and/or exterior) to record the positions of closely related items and the general layout and key parts of the scene;
- close-up shots which often require scales to indicate the actual size of the items; and
- technical photographs including where appropriate, macroscopic photography (e.g. edges or glass or paint and physical fits such as paper tears), scale photographs and photographs of chemical enhancements requiring the use of specialised filters and illumination techniques.

3.5.3 Plans

Sketch plans of the crime scene should enable the CSI to locate all evidence and objects of relevance and include:

- the layout of the scene and the orientation of the scene to its surroundings;
- identification of key elements (e.g. rooms, trees);
- major objects (e.g. furniture);
- specific item locations;
- necessary measurements;
- direction 'north' to be marked;
- legend; and
- scale.

3.6. EXHIBIT COLLECTION

The tasks of exhibit collection include:

3.6.1 Collect and package all exhibits in a manner that will prevent contamination

This can be achieved by:

- collection of each item of evidence using clean (ideally unused disposable) equipment (e.g. gloves, tweezers, clear cellotape);
- wearing clean gloves, cap, shoe cover and face mask with regular changes between collecting exhibits;
- wearing a disposable overall/suit or clean working apparel in compliance with OH&S regulations;
- packaging each exhibit separately and in the appropriate packaging medium (rigid cardboard box, paper bag, sterile plastic container) to protect exhibits against contamination, damage and/or destruction;
- ensuring all packaging material is clean; and
- ensuring no cross contamination between items collected from suspects and victims by:
 - having the items collected by different investigators and/or examiners;
 - collecting the items on different days wearing different garments; and/or
 - reminding other personnel (e.g. detectives and mortuary attendants) of the need for care in gathering any clothing and the appropriate procedures for packaging and labelling.

3.6.2 Ensure appropriate labelling to identify exhibits

Labelling of items should include the following information:

- time and date collected;
- person collecting – name and initials or signature;
- description of the contents, including quantity and characteristics;
- description of where it was collected;
- unique identifying number or barcode; and
- a continuity label affixed that contains a movement log of all persons who take possession of the exhibit, (including the person(s) collecting the exhibit) and the date. This may be in the form of an exhibits book or a printed proforma document.

3.6.3 Establish a record sheet of exhibits in chronological order as collected

The list made at the time of collection will assist in the maintenance of continuity and in the preparation of subsequent case notes and reports or statements.

3.7 CASE MANAGEMENT

Management of a case requires the following:

3.7.1 Ensure continuity and security of exhibits, items and records

To ensure continuity and security:

- all collected items should have a movement log – this can be achieved by noting the movement in an exhibit book or on a form. A continuity label should also be attached to the exhibit;
- all exhibits should be logged into the relevant management system (computer database or hard copy exhibit book);
- case management folders/files should be commenced and all records attached to the folder/file for a given case;
- all collected items should be securely stored when not being examined; and
- all movement of files and collected items should be accounted for and an entry made on the relevant database, movement slip or within the file.

3.7.2 Ensure examinations are conducted in the appropriate sequence

This is more common during the investigation of major crimes. For example, any non-destructive examinations should be conducted prior to any destructive examinations.

3.7.3 Maintain liaison with the Officer in Charge of the case and other specialists

This may include direct communication or the organisation of case conferences. These would involve all relevant personnel and be called as the need arises. They should be frequent to start with and less frequent as the case progresses. This is imperative to prevent any communication breakdown.

3.7.4 Prepare relevant statements, reports and other documentation

Interim reports may be required by detectives as to the progress of the examination.

Statements and reports should include the following key points:

- case reference number;
- general text relating to the scene;
- statement of any conclusions or opinions;
- items identified and collected;
- continuity of all evidence; and
- signature of the author.

Appropriate peer review of statements and case files is essential.

3.7.5 Conduct Technical and Administrative Reviews of case files

On completion of all examinations, tests and the preparation of formal statements/reports, the entire case folder should undergo a Technical and Administrative Review by an independent person, preferably a supervisor.

4 PROCEDURES, PROTOCOLS AND VALIDATION

The protocols and procedures described under Section 3 on 'Collection, Analysis, Interpretation and Reporting' are regarded as the minimum requirements for the processing of serious crimes (e.g. homicides).

For less complex crimes such as house burglaries, for example, some of these criteria may not be applicable. For example, under 'Controlling the Scene', establishment of scene boundaries, scene guards and scene logs are not usually applicable to burglary scenes. However, some form of scene assessment, examination, recording, collection and management must be part of the processing of every scene.

In addition, the crime scene facility must have and follow documented procedures which are tracked and controlled. The documented procedures should reflect the crime scene investigation process. Procedures developed in-house must be tested prior to application to demonstrate they are fit-for-purpose.

All procedures must specify any use of reagents and controls (where they are used) and should be a step by step process sufficiently detailed to ensure uniformity and consistency.

5 QUALITY MANAGEMENT

Quality management is a process by which the validity of the work of the CSI can be enhanced. Quality should be built in at each step of the process and not checked in at the end, and should reflect continuous improvement.

Appropriate education and training, documented protocols and procedures, and reliable equipment and consumables are all part of the quality management process. Ideally, the crime scene facility should be accredited to international standards (e.g. ISO/IEC 17020 or ISO/IEC 17025) and examiners should participate in proficiency tests or collaborative trials.

However, as a minimum, CSI should have a check list of key actions which they monitor as they are processing the scene to assist in maintaining the integrity of the scene, the integrity of the items collected and evidence management (or chain of custody).

Specifically, the crime scene facility must establish, follow and maintain a documented quality management system that is appropriate to crime scene investigation activities and is equivalent to, what is required by these minimum requirements.

The laboratory must maintain and follow a procedure regarding document retention that specifically addresses:

- Proficiency tests;
- Practitioner competence;
- Analytical results;
- Sample receipt and processing records;
- Sample retention;
- Corrective action;
- Audits;
- Training records;
- Continual professional development; and
- Court testimony monitoring.

The quality management program must specify and document the responsibility, authority, and interrelation of all personnel who manage, perform or verify work affecting the validity of the crime scene investigation.

6 GLOSSARY

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| ADMINISTRATIVE REVIEW | An evaluation of the case report and supporting documentation for consistency with laboratory policies and for editorial correctness. |
| BIOLOGICAL STAIN/MATERIAL | Material derived from the body, for example, blood, semen, body tissue, bone, hair and saliva. |
| BLOODSTAIN | Evidence that liquid blood has come into contact with a surface. |
| BLOODSTAIN/SPLASH PATTERN | Pattern of bloodstains through which the manner in which the pattern was applied and associated information can be deduced. |
| CONTAMINATION | Contamination can be described as extraneous material introduced to the crime scene and deposited on evidence after an event, including during identification, recovery, preservation, handling or analysis. |
| CONTINUITY | Also known as the 'chain of custody', are the measures in place to ensure that the evidence examined by a forensic practitioner is the actual evidence recovered from the crime scene. Generally comprise of a chronological record of evidence handling, including seizure, custody, transfer and disposal. Every transfer of the evidence must be recorded to demonstrate that no unauthorised access or mishandling has occurred. |
| CRIME SCENE | Location where forensic evidence relating to a crime may be located. A primary crime scene denotes the original or initial scene of crime, and secondary or tertiary crime scenes denote subsequent crime scenes or locations containing evidence relating to the primary scene. |
| IMPRESSION EVIDENCE | Markings produced when one object comes into contact with another, leaving behind an indentation or print, e.g. shoe/tyre marks and tool marks. |
| LATENT FINGERPRINT | A fingerprint found at a crime scene that may not be immediately visible. |
| LIGHT SOURCE | Optical searching tool used to detect evidence that may not be visible to the naked eye. A forensic light source is made up of a powerful lamp containing the ultra-violet, visible and infrared components of light. It filters down the light into individual colour bands (wavelengths) that enhance the visualization of evidence by light interaction techniques including fluorescence (evidence glows), absorption (evidence darkens), and oblique lighting (small particle evidence revealed). |
| PHYSICAL EVIDENCE | Real evidence consisting of tangible items such as biological material, cartridge cases and latent fingerprints. |
| PRESUMPTIVE TEST | A chemical test which generally relies on a colour change to indicate the possible presence of a particular substance. Presumptive tests are not conclusive and further confirmatory tests are always required. |
| SHOE/TYRE PRINT | Impression on a surface made by features on a shoe sole or the tread of a tyre. |
| TRACE EVIDENCE | Evidence created when objects contact. Fibres, hair, soil, wood, gunshot residue and pollen are a few examples of trace evidence that may be transferred between people, objects or the environment during the commission of a crime. |
| TECHNICAL REVIEW | An evaluation of reports, notes, data, and other documents to ensure there is an appropriate and sufficient basis for the scientific conclusions. |

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| VALIDATION | A systematic process used to create objective evidence which demonstrates that a method or procedure provides the correct outcome and fulfils the particular requirements as defined by the intended use. |
| VERIFICATION | A systematic process used to demonstrate that method or procedure used in a laboratory's own environment can achieve the same performance characteristics as specified by the validated process. This is usually undertaken when implementing a published method or procedure in the laboratory and is less extensive than the validation process. |

7 REFERENCES

United Nations Office on Drugs and Crime. 2009. Crime scene and physical evidence awareness for non-forensic personnel. United Nations Office on Drugs and Crime Publication ST/NAR/39.
http://www.unodc.org/documents/scientific/Crime_scene_awareness_Ebook.pdf (accessed October 6, 2014)

United Nations Office on Drugs and Crime. 2011. Crime scene awareness and investigation: training programme and trainers' guide. United Nations Office on Drugs and Crime Publication ST/NAR/43. Vienna: United Nations Office on Drugs and Crime.

Fisher, Barry A.J, and David R Fisher. 2012. Techniques of crime scene investigation. Eighth Ed. Boca Raton: CRC Press.

Tilstone, William J, Michael L. Hastrup, and Camilla Hald. 2012. Fisher's Techniques of Crime Scene Investigation. First International Ed. Boca Raton: CRC Press.

Horswell, David, and Douglas Elliot. 2012. Part 8: Forensic Science, Chapter 98: Crime Scene Examination. In Expert Evidence, ed. I. Freckleton and H. Selby. Sydney: Law Book Company.

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