Forensic Science Regulator

Guidance

The Control and Avoidance of Contamination in Forensic Medical Examinations

FSR-G-207

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1. Introduction

1.1.1 The purpose of this document is to provide guidance for healthcare practitioners to minimise DNA contamination in the forensic medical examination process in settings used routinely for police custody and for sexual assault examinations (e.g. sexual assault referral centres (SARC)).

1.1.2 All healthcare professionals (HCP) providing forensic medical services including evidential sample collection shall take due regard of the Forensic Science Regulator’s Codes of Practice and Conduct for Providers and Practitioners in the Criminal Justice System (the Codes) as it applies to them.

1.2 DNA Contamination Considerations

1.2.1 DNA Contamination events have:
   a. Misled police investigations;
   b. Wasted resources associated with significant costs; and
   c. Delayed cases reaching a judicial conclusion through the courts.

1.2.2 DNA Contamination is defined as “the introduction of DNA, or biological material containing DNA, to an exhibit or sample during or after its recovery from the scene of crime, or from a person”. This is distinct from the adventitious transfer of biological material to an exhibit or sample that can also occur, usually prior to the exhibit or sample being recovered.

1.2.3 It is recognised that DNA contamination incidents cannot be eliminated completely, given the prevalence of human DNA within the living and working environment. This issue is exacerbated by the increasing sensitivity of DNA analytical techniques.

1.2.4 DNA Contamination can occur at any point throughout the forensic process (examination, recovery, sampling, packaging and testing). The principal routes of DNA contamination are:
   a. From personnel to the exhibit/sample;
b. From contaminated consumables (for example, water, swabs, tubes, personal protective equipment (PPE)/ barrier clothing) to the exhibit/sample;

c. From exhibit to exhibit or DNA sample to DNA sample; and

d. From contaminated equipment not properly cleaned between each examination (for example, examination couch, scissors, pens or colposcope) to the exhibit/sample.

1.2.5 Contamination may occur as follows:

a. Directly, also described as primary transfer (for example, saliva or dandruff from an examiner ending up on an exhibit/sample); or

b. Indirectly, also described as secondary or tertiary transfer (for example, biological material present on a drawer handle is transferred on to the gloves of an examiner who opens the drawer; the examiner fails to change their outer pair of gloves and then handles a DNA grade consumable, resulting in the indirect transfer of biological material from the handle of the drawer to the consumable).

1.2.6 Some examples of contamination routes are provided in table 1 below.

<table>
<thead>
<tr>
<th>Direct transfer</th>
<th>Indirect transfer – secondary transfer</th>
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</thead>
<tbody>
<tr>
<td>Sample to Environment/item</td>
<td>Environment/item to Examinee to Sample</td>
</tr>
<tr>
<td>Environment/item to Sample</td>
<td>Environment/item to Consumable to Sample</td>
</tr>
<tr>
<td>Consumable to Sample</td>
<td>Environment/item to Practitioner to Sample</td>
</tr>
<tr>
<td>Person to Environment/item</td>
<td>Environment/item to Environment/item to Sample</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Indirect transfer – tertiary transfer</th>
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</thead>
<tbody>
<tr>
<td>Person to Environment/item to Consumable to Sample</td>
</tr>
<tr>
<td>Person to Environment/item to Examinee to Sample</td>
</tr>
<tr>
<td>Environment/item to Environment/item to Examinee to Sample</td>
</tr>
<tr>
<td>Environment/item to Environment/item to Practitioner to Sample</td>
</tr>
<tr>
<td>Sample 1 to Environment/item to Examinee to Sample 2</td>
</tr>
</tbody>
</table>
Table 1: Examples of routes where contamination of DNA may occur.

1.3 Anti-Contamination Principles

1.3.1 In principle contamination is managed through a combination of prevention, by minimising the opportunities for contamination to occur, followed by detection, in the event contamination does occur.

1.3.2 Examples of prevention of contamination include:

a. Ensuring that those undergoing a forensic medical examination are conveyed to the examination room in a manner that limits contamination opportunities;

b. Forensic examination rooms being designed and maintained in a manner that limits the opportunities for contamination between one examination and the next;

c. Working practices of forensic clinicians being such that they reduce the opportunity of contamination between examinees; and

d. Use of appropriately cleaned equipment and consumables of the correct grade.

1.3.3 The measures to be taken, as far as is practicable, include:

a. Minimising the chance of contamination occurring by, for example, staff using barrier clothing;

b. Restricting access to rooms used during the forensic medical assessment and after cleaning;

c. Restricting access to areas containing exhibits;

d. Effective cleaning of examination equipment and surfaces before and/or after use;

e. Using consumables specified as DNA grade or free from detectable levels;
f. Ensuring that equipment, including mobile equipment, is adequately decontaminated between use based on risk assessment;

g. Using recovery, sampling and packaging techniques that avoid contact with areas that are not part of the material of interest; and

h. Separation of exhibits/samples during transport and in storage.

1.3.4 Detection of inadvertent contamination primarily involves:

a. Comparison of DNA profiles generated from items against a database of reference DNA profiles from personnel from whom there is a significant risk of contamination (for example, police officers, forensic crime scene examiners; healthcare practitioners and manufacturers of consumables); and

b. Comparison of DNA profiles generated from items to results detected from quality assurance (QA) testing of reagents and consumables and from laboratory controls;

2. Scope

2.1.1 This guidance covers the DNA anti-contamination practices and processes for the taking of personal samples and recovery of other trace evidence for forensic analysis from examinations in locations where they are routinely carried out.

3. Implementation

3.1.1 This guidance is available for incorporation into an organisation’s standard practice, operating procedures and quality management system from the date of publication and should be adopted as soon as possible after that date. Full compliance with the requirements set out in this guidance is required by the implementation date specified in the statement of requirements in the Codes for sexual assault referral centres or custodial settings such as police custody suites.
4. **Modification**

4.1.1 This is the second issue of this document. This is a major rewrite of the previous version.

4.1.2 The Forensic Science Regulator (the Regulator) uses an identification system for all documents. In the normal sequence of documents this identifier is of the form ‘FSR-#-###’ where (a) the ‘#’ indicates a letter to describe the type or document and (b) ‘###’ indicates a numerical, or alphanumerical, code to identify the document. For example, this document is FSR-G-207. Combined with the issue number this ensures each document is uniquely identified.

4.1.3 If it is necessary to publish a modified version of a document (e.g. a version in a different language), then the modified version will have an additional letter at the end of the unique identifier. The identifier thus becoming FSR-#-####.

4.1.4 In all cases the normal document bearing the identifier FSR-#-###, is to be taken as the definitive version. In the event of any discrepancy between the normal version and a modified version then the text of the

5. **Terminology**

5.1.1 The terms and definitions set out in the Regulator’s Codes, and the glossary section apply to this document. Those in ILAC G19:08/2014 ‘Modules in a Forensic Science Process’ apply where there is no corresponding definition set out in the Forensic Science Regulator’s guidance and the Codes.

5.1.2 The word ‘shall’ has been used in this document where there is a corresponding requirement in ISO 15189:2012 and the Codes; the word ‘should’ has been used to indicate generally accepted practice where the reason for not complying, or any deviation, shall be recorded. The word ‘may’ has been used for recommendations. Recommendations have been used to indicate what ideal practice is when it is practicable.

5.1.3 For the purpose of this document, the term ‘patient’ is used to refer to complainants who have alleged or are suspected to have been subjected to
sexual assault and individuals alleged to have committed or suspected of committing offences against the person such as, sexual assault, grievous bodily harm and murder.

6. Professional Responsibility

6.1 Personnel: Training And Competence (Codes Sections 18 And 19)

6.1.1 The training and competency requirements set out in the Regulator’s Codes apply, further to any technical training and competency required by the HCP’s professional or regulatory body.

6.1.2 All practitioners shall have undergone training specified by their profession and assessment of competency in the forensic areas within which they are working and shall work within their areas of competence. This includes personnel with responsibility for the decontamination cleaning of the forensic areas of the facility (for example, crisis worker).

6.1.3 Processes shall be in place for assessing and maintaining on-going competency, for example, this should include peer review, audit, continuing professional development, feedback on environmental monitoring, samples taken, information provided to accompany submissions for analysis and laboratory test results (Nittis et al, 2104). Procedures to assess quality and feedback to the practitioner or service provider should be in place through developing collaborative working between the police and their forensic service provider (FSPs).

6.1.4 Professional requirements (for example, from the Faculty of Forensic & Legal Medicine [FFLM], Royal College of Paediatrics and Child Health [RCPCH] and College of Paramedics) or regulatory requirements (for example, from the General Medical Council [GMC] and Nursing and Midwifery Council [NMC]), are outside the remit of the Regulator, but HCPs have separate obligations to
adhere to the relevant provisions. The code of conduct for forensic science practitioners provided in the Codes shall be followed.

7. Facilities

7.1.1 Rooms used to conduct the forensic medical examinations shall be designated as a ‘DNA clean area’ and DNA anti-contamination practices shall be in place.

7.1.2 As a minimum this guidance applies to any room or area used for receiving persons for examination, medical examination and/or sample collection/storage.

7.1.3 There shall be a named person within the facility with responsibility for ensuring that a suitable environment is provided. This will enable the practitioner to carry out their duties appropriately, without compromising the integrity of any material or samples recovered. Any quality issues should be reported to this named person and for police owned facilities should include informing the police forensic submissions/science unit appropriate.

7.1.4 The requisite health and safety checks shall be carried out for the use of cleaning reagents.

Accommodation and environmental conditions (Codes section 20)

7.1.5 An identified room where the forensic medical examination or sample collection will take place should be designated the ‘forensic medical examination’ or DNA clean area in readiness for use.

Layout

7.1.6 The forensic medical examination room shall have adequate space to minimise the risk of cross-contamination between the patient’s outer clothing and the forensic medical examination area and equipment. Although the focus is DNA contamination other evidence types (such as dried flaking body fluids, hairs, fibres and particulate debris) can also cross-contaminate.

7.1.7 The layout of the forensic medical examination room should effectively shield the patient from the non-medical practitioners during the examination and sample recovery stage to avoid cross-contamination from these individuals.
7.1.8 Airflow within and between designated forensic areas of the facility shall be kept to a level that minimises the risk of trace evidence being transferred from the patient to the environment and from environmental background DNA to the patient. This means that portable fans shall not be used and there shall be no strong air currents notably through vents or windows that may be positioned near the examination, sampling and packaging areas.

7.1.9 Structure, furniture, fittings and equipment

7.1.10 Walls and ceilings should be of smooth finish, sealed and resistant to degradation from frequent cleaning.¹

7.1.11 Fitting should be flush or anti-ligature to allow ease of cleaning.

7.1.12 Floors should be of a readily cleanable durable material, for example, vinyl, and fully sealed.

7.1.13 Walls, floors and furniture should be of smooth finish, sealed and resistant to deterioration from frequent cleaning.

7.1.14 All furniture placed in the DNA area shall be made or covered with non-porous material such as vinyl which can withstand frequent cleaning, and withstand frequent cleaning. Chairs for staff should be height adjustable.

7.1.15 Drawer units should provide sufficient storage capacity to enable work surfaces to be kept clear, other than for equipment in use.

¹ The active agent, corrosive nature and downstream effects from the cleaning materials used need to be understood; surfaces need to be resistant to degradation because of frequent contact with the cleaning reagents.
8. Anti-Contamination Measures (Codes Section 21.2 and FSR-G-212 Section 9)

8.1.1 The Codes provide detailed requirements on contamination avoidance, monitoring and detection and describe steps to be taken to establish procedures relevant to contamination control.

8.1.2 These include conducting a hazard or risk-based analysis (for example, process mapping) with respect to contamination.

8.1.3 The following conditions to prevent cross-contamination should apply.

   a. The practitioner undertaking the forensic medical examination of a victim or complainant should not provide any medical examination or any other service to the alleged suspect in the same case, for example, where the suspect is in custody.

   b. Where the provider of practitioners delivers services to both the SARC and custodial settings, there should be separate rotas in operation to ensure that the practitioner available for sexual offence forensic medical examinations of complainants is not used for custody medicine at that time.

   c. In the event that multiple patients from the same alleged crime attend the SARC at the same time, or multiple suspects from the same alleged crime are in custody at the same time, staff should manage on a case by case basis to ensure that they minimise contamination for example, the involvement of siblings may have different considerations to that of multiple unrelated / random individuals.

   d. Police officers shall be trained in (general) forensic awareness, to address activities where a risk of DNA contamination might arise and ensure appropriate records are made of the actions to minimise this; for example, the separate transport of suspects, or a suspect and a complainant, by different vehicles and staff. Where this was not possible or practiced then the appropriate information shall be documented,
brought to the attention of the FSP and disclosed in any subsequent report or statement, by police, healthcare practitioner and forensic scientist as appropriate.

8.1.4 In exceptional circumstances, where it becomes necessary to use the same practitioners, the reason and rationale behind the decision and the steps that have been undertaken to reduce the risk of contamination shall be documented. For example this might include, cleaning of mobile equipment including the outer surface of a medical bag; showering including hair wash if appropriate; and a change of clothes. These measures shall be recorded and documented in the sexual assault referral centre (SARC) and/or custody record as appropriate and disclosed in any subsequent report or statement.

8.2 Cleaning

8.2.1 The management of cleaning, monitoring, handling and sampling procedures shall take account of the risk of contamination.

8.2.2 Cleaning should be undertaken wearing sufficient barrier clothing (section 9.4) and glove management to prevent, as a minimum, transferring DNA from:

a. Room and items to self;

b. Self to room and items;

c. Items to room;

d. Items to items; and

e. Room to room.
8.2.3 Cleaning agent(s)\(^2\) and method(s) should be demonstrated through validation to be effective (NIJ. 2011) in denaturing and/or removing levels of DNA detected using routine profiling methods (Ballantyne et al., 2015).

8.2.4 The following routine practices shall apply to the forensic medical examination room.

   a. Cleaning of the designated DNA clean controlled areas shall be undertaken prior to and/or after each examination.

   b. Deep cleaning should be undertaken at least every month. This clean should include the removal and cleaning of materials stored within the cupboards and drawers in this area.

   c. The room shall be sealed or locked after each clean and the door labelled to identify the status of the room. This does not negate the requirement for monthly deep cleaning if the room is still sealed more than a month from the previous cleaning.

   d. The date of cleaning, (time if appropriate) and by whom shall be recorded in the cleaning logs and retained.

8.2.5 As a minimum, cleaning of surfaces and equipment (including colposcope and camera systems) that have a risk of transferring DNA directly to the examinee or to the consumables used to recover and package samples and exhibits shall be undertaken prior to each examination. Cleaning of high-risk areas shall also be carried out after each examination.

8.2.6 The number of persons accessing the medical examination room shall be minimised by restricting access to authorised personnel. The documentation held shall record as a minimum, the date and time when each patient was examined, the practitioner(s) and any other persons in attendance.

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\(^2\) Examples of cleaning agents include 10% sodium hypochlorite (bleach, Presept\(^\text{TM}\)) solution, 1% Solution Rely+On\(^\text{TM}\) Virkon\(^\circ\), Microsol (10 %) and Distel (1%) (Trigene Advance) and Activ8\(^\text{TM}\)(non-corrosive).
8.2.7 There should be a programme of testing rooms, areas and/or equipment to assess whether the decontamination and cleaning is both effective and has been carried out properly, i.e. environmental monitoring, see FSR-G-212 section 9.7).

9. Packaging And General Chemicals And Materials
(Codes Section 13)

9.1.1 Any sample, packaging and/or collection kits used shall be fit for their intended purpose. This can be demonstrated by consumable manufacturers and kit assemblers meeting the requirements set out for DNA consumables in BS ISO 18385:2016 ‘Minimising the risk of human DNA contamination in products used to collect, store and analyse biological material for forensic purposes’ and for other non-DNA consumables in the publicly available specification (PAS) 377:2012 ‘Specification for consumables used in the collection, preservation and processing of material for forensic analysis – Requirements for product, manufacturing and forensic kit assembly’.

9.1.2 Areas used for the storage and handling of consumables, samples and exhibits shall be secure and access shall be restricted to authorised personnel only.

Packaging

9.1.3 The packaging of collected material shall preserve the integrity of the potential material for forensic examination and minimise the risk of loss, degradation or contamination.

9.1.4 As a minimum this should include:

a. Separate packaging of items where the packaging of items together is likely to compromise them;

b. The appropriate packaging for the size, condition and forensic analysis requirements of the material recovered; and

c. Secure sealing.
9.2 Consumables

9.2.1 Consumables are single-use commodities used in the collection, preservation and processing of material for forensic analysis, and are bought and used routinely. These include barrier / personal protective equipment, tamper evident containers, swabs, and packaging that comes into direct contact with the material for forensic analysis. A consumable can also be equipment used in the collection, processing and safe handling of the material, for example, disposable tweezers or scissors.

9.2.2 Consumables utilised shall be such that they minimise the risk of DNA contamination. As a minimum, sampling items such as swabs and water that are declared as human DNA free/ forensic DNA grade shall be used. A record of the batch/lot information shall be recorded.

9.2.3 Whether stored at the facility, in the examination room or carried by the practitioner, as a minimum, swabs, water ampoules, barrier clothing (suits, aprons and sleeve covers), gloves (high risk) and exhibit bags shall be protected from the environment, either by outer protective packaging or packaged as part of a kit.

9.3 Equipment

9.3.1 Based on the risk assessment wherever possible the use of re-usable equipment (for example, tweezers, scissors or pens) should be avoided.

9.3.2 Equipment that is not disposable and needs to be reused (for example, colposcope, stethoscope, computer keyboards, mouse) shall be decontaminated between each examination.

9.3.3 The cleaning method used shall be effective in removing detectable levels of DNA (7.2.3) and shall not interfere with downstream DNA processing. Cleaning process examples are as follows.

   a. Items not suitable for immersion in fluid without being damaged should be thoroughly cleaned using disposable cleaning roll or wipes liberally wetted with a chemical that inactivates and removes DNA. If equipment
will have direct contact with sampling materials or has health and safety implications then the cleaning process should ensure that all residues of the cleaning agent is removed, for example, by cleaning with ‘sterile’ water or DNA free water (if available). Where equipment or items are susceptible to corrosion, then an appropriate cleaning agent that does not corrode\(^3\) should be used.

b. Small items thought to be contaminated that are suitable for immersion in fluid without damaging them should be submerged in a cleaning agent, scrubbed/wiped down to remove material. If equipment will have direct contact with sampling materials or has health and safety implications then it should be rinsed in sterile distilled water and placed in clean sealed protective packaging (for example, bag, plastic box) in readiness for the next use.

9.4 Use Of Personal Barrier / Protective Equipment (FSR-G-212 Section 9.2)

9.4.1 For the examination, persons who are not critical to the examination or support of the person being examined shall be excluded where possible, for example, police and family members; all in attendance shall as a minimum wear protective barrier clothing as defined below:

a. Disposable barrier clothing to cover exposed/bare skin and the outer clothing to prevent DNA transfer onto outer clothing, which is subsequently transferred onto a handled item or another person, such as scrubs or aprons and disposable sleeve covers;

\(^3\) Activ8™ contains no oxidising or corrosive ingredients and can therefore be used with confidence on all surfaces including fabrics and carpets. King’s College London and Metropolitan Police Service (2015) Cleaning project.
b. Non-latex powder free\textsuperscript{4} gloves (for example, nitrile).

9.4.2 It is also preferable for a mask, mob cap and overshoes to be worn. The purpose of wearing a face mask to reduce the risk of contamination shall be explained to the patient. If the patient objects or where the healthcare practitioner considers the use of a face mask to be upsetting and the face mask is subsequently not worn, then this shall be recorded in the examination case notes with the reasons.

9.4.3 Hands shall be decontaminated before donning gloves, and following their removal.

9.4.4 Double gloving with changes of the top gloves when handling different sample sites, before handling equipment or after touching any other surfaces, such as taps, door handles, bins, curtains, shall be employed.

9.4.5 For the cleaning activities, the following protective barrier clothing shall be worn and put on in the following order:

a. Face mask;

b. Overshoes;

c. Mob cap;

d. Inner base gloves;

e. Disposable lab coat, ‘scrubs’ scene suit or apron and sleeve covers; and

f. Outer gloves.

9.4.6 Protective barrier clothing shall be changed after every forensic examination, cleaning or maintenance task.

9.4.7 The protective barrier clothing shall be appropriately disposed of after use.

\textsuperscript{4} The powder in many types of gloves has been found to inhibit subsequent DNA analysis and can potentially contaminate items being handled, therefore powdered gloves should be avoided.
10. Methods And Procedures

10.1.1 Prior to using the examination room the practitioner shall satisfy themselves that the appropriate level of cleaning has taken place (8.1.10). If there is any doubt as to the integrity of the cleanliness then in addition to the couch cover, disposable sheeting shall be placed onto surfaces such as trolley, table, desks to act as a barrier prior to use.

10.1.2 Any quality or integrity issue shall be brought to the attention of the centre or appropriate facility manager and a record of the issue, date, time and to whom the matter was reported shall be documented.

10.1.3 Following investigation, it could require escalation to the Forensic Science Regulator; examples are provided in the Codes. Concerns about quality issues can also be raised using the anonymous reporting tool, details can be found at https://forms.theiline.co.uk/forensicregulator.

10.1.4 A record of all persons in attendance at any time and the protective measures taken during the examination shall be maintained.

10.1.5 The Faculty of Forensic & Legal Medicine (FFLM) sampling guidelines should be followed.

10.1.6 If required to use moistened swabs for sampling, then fresh clean gloves shall be worn to open the water ampoule and the initial drops of water shall be discarded as a means to flush the nozzle before wetting the swab in case it has not been adequately protected or touched prior to use; if the nozzle makes contact with any contaminated surface then the water ampoule shall be discarded.

10.1.7 All exhibit bags should be labelled and sealed before they are transported for storage, either within the facility or at an agreed alternative storage facility. This should be the responsibility and ownership of the practitioner collecting the items (Codes 23.3).
10.1.8 Practitioners are categorised as individuals who pose a high risk for DNA contamination, see FSR-G-212 section 9.3 and as such shall provide DNA samples for elimination purposes.

11. Documentation

11.1 Exhibit Labelling

11.1.1 The packaging of all items shall be labelled so that it allows for the chain of custody to be tracked. As a minimum, labelling shall include:

   a. A unique identifier (for example, barcode or a combination of date/case number/operator/consecutive numbering);

   b. Description of the item;

   c. The name of the person and/or location from which the item was collected.

   d. The date and time (see FFLM recommendations on Collection of Specimens) that the item was collected;

   e. The name or identifier of the person who collected the item.

11.2 Note Taking And Record Keeping (Codes Section 15)

11.2.1 Decisions made by practitioners concerning the examination strategy, forensic medical examination and sampling shall be recorded along with the reason for making the decision. Where an expected course of action is not followed, then the reason for doing so shall be documented in the record.

11.2.2 If not recording time of sampling in order to show the sequence of sampling that needs to be documented in the examination notes.

11.2.3 Notes shall contain sufficient information and detail in particular non-technical, continuity (chain of custody) to enable the practitioner to generate a statement, if required, at a later date.
11.3 Statements And Reports (Codes Section 28)

11.3.1 Due regard should be taken of the disclosure obligations and the requirements set out in the ‘Criminal Procedure Rules and Criminal Practice Directions’ (Ministry of Justice) for experts. Though duties to the court of professional witnesses and experts are similar, it should be borne in mind that the court can deem an individual an expert to give an opinion based on their experience and knowledge; in addition, opinion evidence may rely on the statements provided by other practitioners. A forensic scientist may rely upon statement(s) from other practitioners when evaluating and forming an opinion on their scientific findings.

11.3.2 Legal obligations are set out FSR-I-400 and disclosure requirements in the CPS Guidance for Experts on Disclosure, Unused Material and Case Management. Example of statement formats are set out in FSR-G-200 and FSR-G-225.

12. Review

12.1.1 The Forensic Science Regulator welcomes comments. Please send them to the address as set out at: www.gov.uk/government/organisations/forensic-science-regulator, or email: FSREnquiries@homeoffice.gov.uk

13. Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Meaning</th>
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<tr>
<td>CPS</td>
<td>Crown Prosecution Service</td>
</tr>
<tr>
<td>DNA</td>
<td>Deoxyribonucleic acid</td>
</tr>
<tr>
<td>FFLM</td>
<td>Faculty of Forensic &amp; Legal Medicine of the Royal College of Physicians</td>
</tr>
<tr>
<td>FSR</td>
<td>Forensic Science Regulator</td>
</tr>
<tr>
<td>HCP</td>
<td>Healthcare Professional</td>
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Abbreviation | Meaning
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ISO | International Organisation for Standardization
PPE | Personal Protective Equipment
SARC | Sexual Assault Referral Centre

14. References


King's College London and Metropolitan Police Service (2015) Cleaning project. Personal communication to the Forensic Science Regulator DNA specialist group meeting. 10 July 2015.


15. **Glossary**

**Consumables**

Single-use commodities used in the collection, preservation and processing of material for forensic analysis, which are bought and used up recurrently. These
include personal protective equipment, tamper evident containers, swabs, and packaging that come into direct contact with the material for forensic analysis. A consumable can also be equipment used in the collection, processing and safe handling of the material, for example, disposable tweezers and scissors.

**DNA clean area**

Area in which appropriate DNA Contamination prevention measures should be maintained at all times.

**DNA contamination**

The introduction of DNA, or biological material containing DNA, to an exhibit, or sub-sample derived from an exhibit during or after its recovery from the scene of crime or a person. In the context of the facility this could occur for any of the following reasons.

a. Poor practice 5 employed by staff using fixtures and fittings and/or collecting forensic samples.

b. DNA contamination from anybody who has had access to the forensic waiting room and/or the medical examination room. Here key risk groups are people from whom elimination DNA profiles have not been taken and included in an elimination database (FSR-P-302), and therefore may be inadvertently associated with a crime rather than being identified as contamination. These may include visitors, contractors and people accompanying a patient into the forensic waiting room and/or the medical examination room.

c. Insufficient use of cleaning regimes, or ineffective cleaning reagents used, as part of a general forensic clean or a subsequent deep clean.

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5 It should be noted that even good practice does not eliminate the risk of contamination; it only helps to minimise it.
d. Residual DNA from the manufacture/maintenance of fixtures and fittings that have not been deep cleaned.

**Facility**

For the purpose of this document, this includes any room or area used for receiving persons for examination, medical examination and/or sample collection/storage.

**Forensic DNA grade**

Consumables that are compliant with the requirements set out in ISO 18385:2016 Minimizing the risk of human DNA contamination in products used to collect, store and analyse biological material for forensic purposes.

**Forensic Medical Examination**

Activity or process of observing, assessing, prioritising, recording, collecting samples for scientific analysis, documenting injuries and interpreting with reference to offences against the person such as sexual assault.

**Human DNA free**

Human DNA is not detectable by the most sensitive DNA profiling techniques available.

**Patient**

Any individual (victims, complainants, suspect and person of interest) who is examined for the recovery of forensic science evidence in alleged or suspected sexual assault cases.

**Personal Protective Equipment (PPE)**

Items, for example, clothing and gloves, which are used to prevent skin and mucous membrane exposure when in contact with blood and body fluid on or from any patient. PPE is also worn to protect the practitioner from contact with harmful chemicals, for example, during decontamination, and to minimise the chance that the wearer causes inadvertent DNA contamination.
Practitioner

For the purpose of this document, the term is used to describe personnel involved in the recovery of material for forensic analysis, including those who are responsible for cleaning and DNA contamination, for example, forensic physicians (both doctors and paediatricians), forensic nurses, paramedics, crisis workers and cleaners (DNA decontamination).