



The Royal College of Pathologists  
Pathology: the science behind the cure



## Guidance for handling medicolegal samples and preserving the chain of evidence

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## 1 Background

In all medicolegal cases involving pathology samples it is essential, as far as possible, that there should be an unbroken chain of evidence accounting for the safe-keeping and treatment of each sample, from the moment of its creation or appropriation, through all tests, to trial.

A laboratory statement to the Court should indicate the labelling on samples as received, which must be sufficiently detailed to identify the sample uniquely. The statement from the laboratory should also be capable of a wholly reliable linkage with a corresponding statement from the person who packed, labelled and dispatched the sample.

Provided that there is admissible evidence to show the sample has been properly attended to, it is not necessary to bring the sample to Court, although this may be useful in some cases (*R v Orrell* [1972] crim LR313). In Scotland, the Procurator Fiscal will decide, in Fatal Accident and Sudden Death Inquiries, whether the sample should be brought to Court. The sample should be taken to Court if it has been expressly requested or ordered. It would be prudent to check if this is the case with the person who has requested the laboratory statement.

There is nothing within the Human Tissue Act 2004, associated Regulations or Human Tissue Authority standards that would prevent tissue samples being taken to Court. However, samples should be fully traceable at all times, so their whereabouts should be known and their removal from storage documented.

A chain of evidence is important wherever there is a possibility that the result of analysis of a sample will be a requirement for a criminal prosecution. In Scotland, all persons handling the sample must sign and date the police production label attached to the sample.

This guidance deals with infrequent events, therefore laboratories are urged to seek expert advice (e.g. from forensic services or medicolegal centres) as soon as possible when faced with such events.

Sometimes laboratories may receive or process samples for which there is already a broken chain of evidence. It is also known that courts have accepted laboratory data as evidence despite a broken chain. The College advises that laboratories should seek to maintain a chain of evidence from receipt to post-analytical disposal of the sample and dispatch of results (when samples are collected as part of a forensic investigation) or from becoming aware of the forensic importance of a sample to disposal and dispatch. If the Court then wishes to assess the admissibility of such evidence, the role of the laboratory will be less vulnerable to adversarial scrutiny.

Pathology reconfigurations will necessitate a chain of evidence throughout the entire sample pathway, including receipt at the original receiving laboratory, internal dispatch to other laboratories within the service and receipt and subsequent processing therein.

As pathology services begin to assume greater ownership of, or involvement in, the whole sample pathway, from sample collection to sample disposal and dispatch of results, the chain-of-evidence responsibilities of the laboratory will need to be widened accordingly. This will include all pre-analytical and post-analytical stages, in addition to the more usual analytical stages.

It is not for laboratory staff or pathologists to decide whether or not evidence is admissible, neither is it for laboratory staff or pathologists to decide whether or not a crime has occurred. The primary function of our laboratories is a diagnostic one and our principal duty of care is to the patient.

## 2 Scope of document

This guidance is for the use of all College members and healthcare scientists from all pathology specialties. They are intended for use throughout the United Kingdom.

(The College separately produced *Guidelines on the release of specimens and data to the police and other law enforcement agencies* in 2006, which are currently being updated. See also Section 10.)

This guidance is written specifically for clinical laboratories, rather than forensic laboratories, and are not intended to supersede or conflict with Coronial, Procurator Fiscal or other forensic rules, guidelines or requirements.

## 3 Introduction

It is important to treat samples that may be used in a court of law in a way that complies with the rules of evidence. Failure to do so may mean that the conclusions drawn from examination of the samples are not given in evidence. This could lead to an adverse result, and possible injustice.

The chain of evidence (sometimes called 'chain or labelled production of custody' or 'continuity') is a legal concept, which requires that the origin and history of any exhibit to be presented as evidence in a court of law must be clearly demonstrated to have followed an unbroken chain from its source to the Court. All persons handling the sample and the places and conditions of storage must be documented, with a note of the time, date, place and signatures where appropriate. This must include all specimen handovers and all key stages of processing.

All movements of a potential exhibit must be verifiable. Continuity depends on being able to track **when** the sample was handled, **where** it was moved from and to, and by **whom**. Each movement must be evidenced by a signature. The time and date are also critical. Other information that must be included is the accession number and nature of the sample (e.g. whether it is a tissue block, slide or other material), the date that they were removed from storage, the reason they were removed and the date that they were returned to storage, including a record of their receipt.

Within the laboratory, a laboratory 'chain of evidence' form (LCOEF) is used. An example of a LCOEF is given in the appendix.

## 4 Samples requiring this procedure

- All samples where the request form indicates that a criminal act may have taken place (e.g. '? assault', 'alleged sexual assault', '? non-accidental injury', 'food poisoning outbreak').
- Samples that are accompanied by a 'chain of evidence' form instigated by the requestor.
- Samples that are brought to the laboratory by the police doctors who have taken them, police officers or other law enforcement agents (e.g. environmental health officers). These should be accompanied by a request form and a LCOEF. Many of these samples are normally dealt with at forensic laboratories, but are occasionally presented to clinical laboratories.

It is straightforward to recognise the need for a continuous chain of evidence when samples are collected as part of a criminal investigation. However, laboratory results of forensic importance sometimes arise unexpectedly. For example, the culture of sexually transmitted microorganisms (e.g. *Neisseria gonorrhoeae*) from children below the age of consent or the presence of spermatozoa on urine analysis from a female under the age of consent may be evidence of sexual assault or abuse, which would require formal investigation. However, because the samples may have been taken as part of a routine diagnostic process, there would be no formal chain of evidence and the result might be inadmissible in Court. In such circumstances, for repeatable samples, a fresh sample may be taken and a chain of evidence established from that point.

Alternatively, it may be possible to establish a chain of evidence by the police obtaining consent for DNA samples to be taken from relevant persons and comparisons made with the DNA obtained from the sample.

## **5 Receipt of sample**

The sample should be received by the most senior scientist in the relevant discipline available, who must check the correctness of provenance and labelling of the sample. If the sample is presented to reception staff or other pathology personnel, the person delivering the specimen must be asked to wait whilst the most senior scientist available, or if necessary a consultant or senior scientist, is called to receive it.

The most senior scientist in the relevant discipline available will confirm the receipt of sample and countersign the LCOEF. They should ensure they record the date, time of receipt and from whom they received it.

### **5.1 Samples arriving at the laboratory with a routine request form suggesting criminal activity**

Ideally this should not happen, because a chain of evidence should have already been established. However, if it does occur, the laboratory director shall nominate a senior member of laboratory staff (this would normally be most senior scientist with management responsibility for sample reception) who will initiate a LCOEF and affix it to the request form. In their absence, the most senior scientist in the specialty processing the sample should initiate the LCOEF. A separate LCOEF must be completed for each sample received. Where samples are split and portions are sent to different sections of the laboratory, a separate LCOEF should be completed for each aliquot. The sample- splitting process should be fully documented and signed by the operator. Stickers, including pre-printed labels, may be used for the patient details, as long as these are checked and signed.

### **5.2 Sample that is accompanied by an LCOEF instigated by the requestor**

The LCOEF will have been partly completed by the requestor. The most senior scientist available must take over responsibility for the LCOEF and ensure that it is affixed to the request form, and additional LCOEFs are filled out if the sample is split.

### **5.3 Sample brought to the laboratory by police doctor, police officer or other law enforcement agent**

The most senior scientist in the relevant discipline available should sign the police 'chain of evidence' form, recording the date and time of receipt, then photocopy the form and give the photocopy back to the person who brought the sample. The original should be attached to a LCOEF instigated by the laboratory and signed by the person who brought the sample to the laboratory.

## **5.4 Outside normal working hours**

The on-call scientist must receive the sample and related documentation and, if possible, alert the most senior on-call person which, according to local protocols, may be the scientist or consultant.

Under no circumstances must the sample be left in any reception area by the person delivering it without handing it over to the most senior scientist available. On the next working day, the LCOEF must be handed over to the most senior scientist available for checking.

## **6 Supervision of sample processing**

All work on the sample must be carried out under the supervision of the most senior scientist in the relevant discipline available, who will check the setting up and reading of tests. They must ensure that all results have been recorded and check the LCOEF at completion, ensuring that all results have been finalised or completed on the laboratory computer system.

Sometimes, the Court will summon the person who created the result to appear and, as this may include cross examination, it may be a daunting prospect for junior staff members. The supervision of the senior person should therefore extend to a depth that would enable them to attest to the results in Court.

If responsibility for the sample is transferred to another scientist, he or she should also sign the LCOEF, inserting the date and time of handover.

## **7 Reporting procedures**

A consultant, head of department or person of similar authority must check the LCOEF paperwork at completion, and sign and record the date and time of this check on the LCOEF. A copy of the completed LCOEF should be given to a police officer, if requested. Clinical reporting should be carried out as normal.

If the consultant checking the paperwork thinks that correct procedures in handling the sample have not been observed, he or she should contact the most senior police officer in charge of the investigation and draw attention to the suspected problem as soon as possible.

The LCOEF should be kept permanently (not more than 30 years) in a specific file and kept secure by a designated senior member of laboratory staff.

## **8 Archiving of chain-of-evidence sample and related documentation**

Archiving of a sample, derived material (e.g. serum) and related documents should follow routine laboratory protocols which, in turn, should be consistent with the RCPATH 2015 guidance: *The retention and storage of pathological records and specimens (5th edition)*, available on [www.rcpath.org/resourceLibrary/the-retention-and-storage-of-pathological-records-and-specimens--5th-edition-.html](http://www.rcpath.org/resourceLibrary/the-retention-and-storage-of-pathological-records-and-specimens--5th-edition-.html)

It is not the function of a primarily diagnostic laboratory to apply any special archiving arising from forensic needs. If conditions of storage or length of archiving need to be any different to the routine procedures of the laboratory, arrangements will need to be made for the transfer of the material to a more appropriate facility. This should normally be arranged through the police. Any long period in storage, unobserved and unhandled, will not, of itself, break the chain of continuity. In all circumstances, the storage and disposal of samples and related documents should be determined in full consultation with the police or relevant law

enforcement agency. This is important because of the possibility of appeals against judgments or the re-opening of a case at a later date.

It is good practice to archive all relevant documents, including the LCOEF and sample request form, in the original paper format and electronically (e.g. through computer scanning). This will minimise any potential challenge to the forensic integrity of the chain of evidence.

## 9 The legal status of electronic data and audit trails

The admissibility of electronically produced documents depends on the manner of their generation. Evidence that is produced purely mechanically is real evidence and admissible. Case law indicates that, for example, test results for specific substances produced by an analyser are mechanically produced and therefore real evidence. This does not infringe the hearsay rules. However, if evidence is produced by a machine or computer which relays information that has been inputted by humans, the hearsay rule applies and admissibility is determined by a statutory regimen as set out within the Criminal Justice Act 2003. Put simply, there is no difference in evidential status between electronic and paper records.

However, the admissibility of electronic records in the context of evidencing continuity (e.g. an electronic LCOEF) is not verifiable. Paper records must contain the signature of all individuals who take custody of a sample. Unless an electronic audit trail allows for the unique and verifiable identification of each custodian, then its value as continuity of evidence could be fatally weakened and its admissibility could be called into question by the Court.

## 10 Related documents

The following documents from The Royal College of Pathologists and the Forensic Science Regulator may also be cross-referenced.

- RCPATH's *Guidelines on autopsy practice*  
This series is currently under revision and new scenarios are in production.  
For updates on progress see [www.rcpath.org/profession/clinical-effectiveness/clinical-guidelines/autopsy-guidelines.html](http://www.rcpath.org/profession/clinical-effectiveness/clinical-guidelines/autopsy-guidelines.html)  
For published scenarios see [www.rcpath.org/profession/publications/specialty-specific-publications.html](http://www.rcpath.org/profession/publications/specialty-specific-publications.html))
- RCPATH's *Code of practice and performance standards for forensic pathologists*, 2016.  
[www.rcpath.org/profession/publications/specialty-specific-publications.html](http://www.rcpath.org/profession/publications/specialty-specific-publications.html)
- RCPATH's *Guidelines on the release of specimens and data to the police and other law enforcement agencies*, 2006 (under review, to be reissued in 2017).
- Forensic Science Regulator's *Legal issues in relation to forensic pathology and tissue retention*, 2014.  
[www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/314874/Legal Issues in Forensic Pathology and Tissue Retention Issue 3.pdf](http://www.gov.uk/government/uploads/system/uploads/attachment_data/file/314874/Legal_Issues_in_Forensic_Pathology_and_Tissue_Retention_Issue_3.pdf)

**Appendix      Laboratory ‘chain of evidence’ form (LCOEF)**

Please complete a separate LCOEF for **each** sample and **each** aliquot derived from a sample.

Staple the LCOEF to the request form.

<b>Date sample taken</b>	<b>Time taken (24-hour clock)</b>	<b>Name of doctor</b>
<b>Patient details (name, unique identifier, date of birth, gender)</b>		<b>Signature of doctor</b>

<b>Sample type/ description</b>	
<b>Test(s) requested</b>	



**ALL NAMES MUST BE ACCOMPANIED BY A SIGNATURE**

<b>Procedure</b>	<b>Name</b>	<b>Signature</b>	<b>Date</b>	<b>Time</b>
Sample taken by				
Sample delivered to laboratory by				
Received by (on-call Y/N)				
Senior scientist check at receipt				
Processing/storage/disposal steps (please specify each procedure)				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
Senior biomedical scientist check on completion				
Consultant check on completion				