

BIO: Evidence Handling

Introduction

General laboratory evidence requirements are located in the *Quality Manual, 14 Evidence Control*.

This document contains additional guidelines for biological evidence.

Factors to consider

Biological evidence is complex. Factors the analyst must consider during the examination include:

- sample size
- degradation
- mixtures
- contaminants
- possibility of further analysis
- preservation of other types of evidence present

Analysts have the responsibility to evaluate the evidence and plan a suitable course of analysis.

Preventing deleterious change

The following practices help prevent deleterious change.

- Liquid samples should be refrigerated upon arrival and processed as soon as possible.
 - Damp or wet evidence containing biological material should be thoroughly dried as soon as possible upon receipt.
 - Evidence containing biological material may be stored frozen or in a controlled temperature environment.
 - Evidence should not be subjected to repeated thawing and refreezing.
 - Evidence should not be frozen if thawing might result in dilution of the stain or loss of spatter patterns, for example on firearms and items made of metal, plastic, or other non-porous materials.
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Evidence examination practices

The following practices must be followed when examining evidence for biological materials.

- Bench tops and examination table work surfaces will be cleaned and covered with clean paper before the examination begins. New sheets of clean paper will be used for each item examined.
 - In addition to biological evidence, the analyst will collect any other pertinent evidence.
 - If necessary, the analyst can coordinate the collection with another analyst.
 - In most circumstances, the analyst will examine only one item of evidence at a time and then return it to its packaging before opening another item of evidence.
 - An item of evidence should be left on the lab bench or examination table only long enough to examine it and remove appropriate samples for analysis.
 - When the examination is complete, the work surface is washed with 10% bleach solution.
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Preventing cross-transfer of evidence

Analysts will take reasonable care to minimize inadvertent cross-transfer of evidence between evidence and reference samples, and victim and suspect samples. Precautions include:

- examining samples at different times or in different spaces
 - examining only one item of evidence at a time
 - wearing lab coats, gloves, and masks at all times when examining evidence and changing them as often as necessary to prevent cross-transfer of evidence or other contamination
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Limited samples

For limited samples, the analyst will ensure, when possible, that sufficient sample remains for re-analysis.

If the entire sample must be consumed, the analyst should confer with the Deputy District Attorney handling the case prior to starting the analysis.

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Liquid blood Liquid blood samples are preserved as dried stains on cotton cloth.

Step	Action
1	Transfer the liquid blood to a piece of clean, white, 100% cotton cloth stapled to a blood card. NOTE: The card is labeled with the appropriate case information including the laboratory case number and item number.
2	When the blood is completely dry, place in a plastic bag, seal, and return to evidence container.

Storage In-progress casework will be securely stored in any of the following areas:

- cages in the walk-in freezer
- cabinet and drawer at the analyst's work station
- cages located in the evidence storage room
- evidence examination rooms

Exception: For safety reasons, blood samples and other biological materials may be left to dry in the hood overnight.

Special storage conditions The analyst is responsible for marking the evidence packaging with special storage conditions, such as "frozen," as applicable.
