

TENNESSEE BUREAU OF INVESTIGATION
Forensic Services Division

Violent Crime Response Team Standard Operating Procedures
Collection of Biological Samples



10. VCRT Procedures

10.21 Collecting of Biological Samples

10.21.1 Scope

Proper collection prevents contamination from sources such as the crime scene personnel and other samples from the crime scene. Proper preservation ensures that degradation due to bacteria, humidity, high heat and other environmental factors are limited.

10.21.2 Definitions

Refer to VCRT 11.0 Definitions and Abbreviations

10.21.3 Chemicals and Reagents

Refer to the TBI Forensic Biology Manual

10.21.4 Equipment and Supplies

Sterile cotton-tip applicators (swabs)
Sterile water
Cutting tool (scalpel and/or scissors)
Alcohol pad or bleach (for cleaning of scalpel or scissors)

Biological evidence requires care to guard against the possibility of cross contamination either by the VCRT Member or by other biological specimens. Personal Protection Equipment that should be considered when recovering biological samples:

- Paper mask that covers nose and mouth
- Eye protection
- Latex or Nitrile gloves
- Disposable shoe covers

10.21.5 Procedure

Photographs should be made before collection is attempted. Refer to VCRT 2.5 for information on crime scene documentation photography. Refer to VCRT 10.34 Comparison Photography for additional information.

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No conclusions shall be drawn as to the composition of a particular stain. For example, when describing a possible blood stain, describe it as “Reddish Brown Stain” or “RBS”, or “possible blood”. None of the current presumptive tests are confirmatory for any biological material.

Collecting stains with sterile swabs is the primary method of collecting DNA evidence. Wet stains can be collected on a dry swab, collecting the entire stain or until the swab is mostly covered. Dry stains can be collected using a swab moistened with sterile water. One or two drops of water are normally sufficient to remove the stain. Always consider collecting two swabs of material if the stain quantity permits. If the size of the stain is limited, care should be taken to concentrate the collection of the stain to the tip of the swab. Swabs should be air dried before final packaging.

The following order of preference for collection shall be considered when recovering biological evidence:

1. Collecting the item:
 - Smaller items should be picked up with tongs or gloved hands.
2. When swabbing a sample:
 - Apply a sterile cotton swab to the suspected stain (or positive control stain); ensuring visually that some material has transferred to the swab. The swab may be wetted before application with 1 – 2 drops of sterile water.
 - Swabs should be air dried before packaging.
3. Cutting the evidence:
 - Stains on large or immovable objects can be cut out of the object with a clean scalpel or scissors. Cut out sections containing multiple stains should be packaged to prevent the cross-contamination of the stains. Placing clean paper over the surface of a large section of the collected material before rolling or folding the material for packaging will help prevent such cross-contamination.

When collecting a mass of tissue, teeth or bones, these items should be dried if possible and refrigerated. Lab personnel shall be notified the next lab business day to freeze these items.