BEST PRACTICES FOR COLLECTION, PACKAGING, STORAGE, PRESERVATION, AND RETRIEVAL OF BIOLOGICAL EVIDENCE

Definitions of Biological Evidence and Biological Material

"Biological evidence" is defined in Art. 38.43 Code of Criminal Procedure, as follows:

1. *The contents of a sexual assault examination kit; or*
2. *Any item that contains blood, semen, hair, saliva, skin tissue, fingernail scrapings, bone, bodily fluids, or any other identifiable biological material that was collected as part of an investigation of an alleged felony offense or conduct constituting a felony offense that might reasonably be used to:*
   a) *Establish the identity of the person committing the offense or engaging in the conduct constituting the offense; or*
   b) *Exclude a person from the group of persons who could have committed the offense or engaged in the conduct constituting the offense.*

Items to Consider as Sources of Biological Evidence or Materials for the Purpose of this Statute

The following list is meant only as a general guide for use in the investigation of crimes in which biological evidence and materials may have evidentiary value. These are:

- Sexual assault examination kits, both victim and suspect kits
- Slides, swabs, test tubes or the proximate container for each from sexual assault examination kits and autopsies
- Clothing, hats, masks, eyeglasses, jewelry, gloves from any involved individuals
- Ligatures such as rope, belts, tape and cords
- Bedding such as sheets, blankets, comforters, pillow cases, pillows and mattress pads
- Other household materials such as towels, used tissues, toilet paper and paper towels
- Condoms
- Drinking containers such as cups, cans and bottles
- Cigarette butts or other smoking devices
- Handled items such as weapons and tools
- Licked items such as envelopes and stamps
- Samples of items retained by a coroner for forensic or toxicology laboratory testing
- Biological reference standards from known individuals such as buccal swabs from a victim, suspect, consensual sex partner or elimination standards
- Secondary reference standards from missing persons such as a toothbrush or hair brush

The above list is not exhaustive. There are many other possible sources of biological evidence or materials.

Training on these and other topics can provide further insight as to the item types and locations of possible biological material.

Items Which Should Not Be Considered As Biological Evidence for the Purpose of this Statute

- Sample of whole blood from a DWI suspect

Evidence Collection

Biological evidence and materials should be collected in a manner that prevents contamination and degradation and ensures integrity during all phases of the investigation and litigation. To avoid contamination, sample collection tools and materials must be free from human DNA. Disposable latex examination gloves, individually wrapped swabs or other individually wrapped items are free of human DNA by virtue of the process of manufacture.

Not all germicidal treatments destroy DNA. Alcohol and hydrogen peroxide, for instance, do not destroy DNA. The most effective way to clean collection equipment is to wipe it with a fresh 10% bleach solution of 10:1 water to bleach. (Any commercially available bleach is adequate for this purpose.)

Clean Collection Practices

Here are examples of ways to prevent contamination and degradation of biological evidence:

1. Use disposable latex (or similar) gloves to handle evidence rather than reusable uniform/tactical gloves. Do not touch the outside of gloves to face or hands, or use personal items such as cell phones or radios and change gloves after contact with potential biological evidence.
2. When field testing evidence, swab the stain and test the swab rather than directly testing the stain. If the stain is small, it should be tested in a lab rather than in the field.
3. Fingerprint powder and brushes carry biological material from one item to the next. Collect DNA samples before powdering or use single use brushes and sterile powder.
4. Clean tools between samples. For example, dip forceps in a fresh 10% bleach solution of 10:1 water to bleach and thoroughly dry prior to reuse.
5. When it is necessary to dampen a swab to collect a dried stain, any source of water that does not contain human DNA is acceptable. Sterile water, distilled water, saline solution and tap water meet this definition. Document which type of water is used.
6. Dry damp items and swabs. When it is not possible to thoroughly dry the item, packaging such as paper bags will allow the drying process to continue.
7. Wet items may be dried by hanging or by laying out on a clean surface indoors away from the scene.
8. Package each item separately.
9. The use of personal protective equipment (disposable clothing, gloves, masks, etc.) both protects the individual from biohazard exposure and prevents transfer of the investigator's DNA to the evidence.

To implement these provisions, these tools are useful:

- Latex or similar gloves
- Sterile swabs
- Water
- Paper containers such as bags, envelopes, boxes
- Tamper Evident Tape
- Permanent marker

Packaging

These are best practices to keep in mind when packaging biological evidence at a crime scene:

- Package evidence and seal the container to protect it from loss, cross transfer, contamination and/or deleterious change.
- Seal the package in such a manner that opening it causes obvious damage or alteration to the container or its seal.
- Package evidence for safety by using boxes or breathable tubes for sharp items, marking items and informing the laboratory if a biohazard is present.
- Package unloaded firearms in clean, unused boxes when submitting them for biological analysis. Mark the packaging and inform the laboratory if a biohazard is present.
- Use paper bags, envelopes, boxes and similar materials for all biological evidence.
- Avoid plastic packaging as an inner or outer package.
- Avoid the use of pill tins due to possible rust.
- Ensure that all swabs and evidence are dry.
- Package each item separately; avoid commingling items to prevent cross contamination.
- Swabs collected from a single item may be packaged in the same container.
- Mark each package with a detailed description that includes the item, location where it was collected, name of the person who collected it and date of collection.
- Seal each package with tape. (staples are not considered a proper seal.) All seals must be marked to identify the person making the seal. Mark through the seal with name or initials and date.
- The integrity of the item often is maintained through the package's documentation. That documentation includes all markings, seals, tags and labels used by all of the involved agencies. Therefore, it is critical to preserve or document all packaging and labels received by or returned to your agency.

Note: If an item (such as a used condom or fetus/product of conception) cannot be dried, it may be placed in plastic and frozen. The laboratory should be contacted as soon as possible for further guidance.

Document Evidence

During the collection process, it is essential to record the location of evidence collected at a crime scene. These are effective methods to do this:

- Use photographs and placards to document the location of each item.
- Develop detailed documentation that describes the item, location where it was collected, name of the person who collected it and date of collection.
- Make a sketch of the scene that includes distances and a legend.

Contamination Prevention

To limit the potential for outside contamination of evidence prior to and during the collection process:

- Secure and limit the scene to essential personnel.
- Change disposable gloves if there is contact with biological material.
- Avoid glove-to-skin contact that can occur by rubbing eyes or nose or wiping perspiration.
- Avoid talking, coughing, sneezing, perspiring on or over evidence.
- Avoid walking on or over evidence.
- Avoid hair loss at scene from head, arms or face.
- Leave the scene if you become injured. Do not return until any blood loss has been stopped and clothing is clean.
- Do not eat, drink, chew gum or use tobacco at a scene.
- Consider the use of disposable personal protective equipment (PPE) such as gloves, masks, shoe covers, coveralls and hair covers when appropriate.
- Avoid skin and oral contact with investigatory tools such as measuring tapes or pens that may have contacted contaminated surfaces.
- Do not discard any trash in or near the crime scene such as cigarette butts, used disposable gloves, cups, or bottles.
- Take care when using cell phones/radios or other personal items. Make sure not to use them when you have gloves on to avoid contamination.

Storage of Biological Evidence (Short-Term)

The storage of biological evidence in this section pertains to the short-term storage that is necessary during all phases of investigation and litigation.

Biological evidence that has been dried should be stored in a facility that minimizes extreme heat and humidity, which can cause DNA to degrade.

Items that are dried and extremely odorous may be retained in a sealed plastic bag.

Biological evidence that cannot feasibly be dried should be stored frozen. However, items returned to the law enforcement governmental evidence-retention entity after laboratory analysis that are no longer frozen may be stored as dry material in a designated property room with little fluctuation in temperature and humidity. Whole blood should be spotted onto

sterile cloth, bloodstain card paper, or FTA paper by laboratory personnel for storage at room temperature.

All packages should be stored in a sealed condition that does not allow for cross contamination, loss or deleterious change. All seals must be marked to identify the person making the seal.

Packages from the same case should be stored in the fewest number of containers using boxes or large bags, with care taken to avoid contamination of evidence. For both storage and retention, boxes provide the most efficient use of space.

Note that some items of evidence containing biological evidence may be too large to reasonably store, especially for long periods of time. For items such as vehicles, mattresses, and other large items, it may be appropriate to photograph the item, clearly showing the location of the biological evidence, and then cut and remove the portion containing the biological material for testing and storage.

Retention of Biological Evidence (Long-Term)

Retention of biological evidence and/or material pertains to long-term storage of evidence from inactive cases, cold cases or after litigation.

Long-term evidence retention should be part of the governmental evidence-retention entity's evidence control policy.

Whenever possible, all evidence from a case should be retained by one governmental evidence-retention entity.

All packages should be stored in a sealed condition that does not allow for cross contamination, loss or deleterious change. All seals must be marked to identify the person making the seal.

Packages from the same case should be stored in the fewest number of containers possible, such as boxes or large bags needed for that case, with care taken to avoid contamination of evidence. For storage and retention, boxes provide the most efficient use of space.

Items that are dried and extremely odorous may be retained in a sealed plastic bag.

Agency case numbers and identifiers must never be removed by another agency unless documented.

A container such as a box or bag containing multiple items or packages must only be used to store evidence from a single case and should be marked to reflect the contents of that container.

Any governmental evidence-retention entity retaining biological evidence must be able to produce an inventory of the evidence. It is best to maintain an evidence inventory in a computer management system that can be backed up. In the absence of such a system, an inventory based on chain-of-custody records must be maintained. It must list the item and its current location as well as document receipt and transfer of the evidence. It is recommended that the original investigating agency maintain the inventory for each case.

Governmental entities in counties with a population under 100,000 may deliver biological evidence to the Texas Department of Public Safety for storage. The address, phone number, and e-mail address of the DPS storage site will be posted on the DPS website at www.dps.texas.gov. Search the site under the heading of bio-evidence storage. Note that DPS storage is intended to be long term retention of the evidence. This would apply both to evidence after a person is convicted, and to evidence in a cold felony case. Agencies are

advised to store biological evidence locally until cases are adjudicated, so that the evidence is available for the pending trial.

Biological Evidence Retention & Preservation Timeline

The retention and preservation schedule for biological evidence is described in Art.38.43 (c) Code of Criminal Procedure.

b) This article applies to a governmental or public entity or an individual, including a law enforcement agency, prosecutor's office, court, public hospital, or crime laboratory, that is charged with the collection, storage, preservation, analysis, or retrieval of biological evidence.

c) An entity or individual described by Sub-section (b) shall ensure that biological evidence collected pursuant to an investigation or prosecution of a felony offense or conduct constituting a felony offense is retained and preserved.

It is important to note that the following retention schedules apply to both adult offenders of felony offenses and to juvenile offenders of conduct constituting a felony.

The retention schedules for biological evidence and materials are provided below.

1. Unsolved: for not less than 40 years, or until the applicable statute of limitations has expired, if there is an un-apprehended actor associated with the offense.
2. Convictions: In a case in which a defendant has been convicted placed on deferred adjudication community supervision, or adjudicated as having engaged in delinquent conduct and there are no additional un-apprehended actors associated with the offense:
   - *a) until the inmate is executed, dies, or is released on parole, if the defendant is convicted of a capital felony.*
   - *b) until the defendant dies, completes the defendant's sentence, or is released on parole or mandatory supervision, if the defendant is sentenced to a term of confinement or imprisonment in the Texas Department of Criminal Justice.*

Destruction of Biological Evidence

Art. 38.43 (d), Code of Criminal Procedure contains the provisions for destruction of biological evidence in cases resulting in the conviction of a person for a felony offense, as follows:

c) The attorney representing the state, clerk, or other officer in possession of biological evidence described by Subsection (a) may destroy the evidence, but only if the attorney, clerk, or officer by mail notifies the defendant, the last attorney of record for the defendant, and the convicting court of the decision to destroy the evidence and a written objection is not received by the attorney, clerk, or officer from the defendant, attorney of record, or court before the 91st day after the later of the following dates:

1. The date on which the attorney representing the state, clerk, or other officer receives proof that the defendant received notice of the planned destruction of evidence; or

2. The date on which notice of the planned destruction of evidence is mailed to the last attorney of record for the defendant.

See Appendix A for the format of a Notice of Intent to Destroy Biological Evidence.

To augment the available storage space for retained biological or other evidence required by statute, it is recommended that each governmental evidence-retention entity routinely inventory its property room for evidence that could possibly be destroyed. Crimes that require adherence to these biological evidence retention standards are felony crimes.

When evidence is being held for cases on appeal, consult the prosecuting attorney for an updated status and the possibility of seeking a destruction order.

Questions in reference to cases that are open or unsolved should be referred to the prosecuting attorney to determine the statute of limitations and the possibility of future litigation or the possibility of seeking a destruction order.

Cataloging of Retained Evidence

A governmental evidence-retention entity must have a system to catalog evidence so it is possible to locate any retained biological evidence.

A cataloging system should make use of a unique case numbering system, a documented procedure for property room organization and the evidence inventory developed for each case.

Evidence control should include a case numbering system. The case numbering system should include unique case identifiers with unique property identifiers.

The organization of the property room should be determined by the governmental evidence-retention entity's ability to locate the evidence through a computerized barcode system or hand written record.

APPENDIX A: SAMPLE LETTER GIVING NOTICE OF INTENT TO DESTROY BIOLOGICAL EVIDENCE

RE: NOTICE OF INTENT TO DESTROY BIOLOGICAL EVIDENCE

[Insert date]

To Whom It May Concern:

Pursuant to Art, 38.43 Code of Criminal Procedure, I am hereby notifying your office that [insert name of governmental evidence retention entity] intends to destroy the biological evidence listed below.

This evidence will be destroyed on or about **91 days from the date that you received this letter** unless written objection is received. A written request for retention of the evidence listed below should be provided to [insert name of governmental evidence retention entity] at the address listed below.

Defendant's name: _____

Victim's name: _____

Evidence items: [List or include attachment]_____

_____

_____

Conviction offense(s): _____

Conviction date: _____

Court: _____

Case number: _____

Sincerely,

[Insert Governmental Evidence Retention Entity]

[Address]

[City, State, Zip]

[Phone Number]