General Guidelines for Collecting Samples and Forwarding Swabs to DNA

A. PURPOSE:

To provide general guidelines for the collection of touch, wearer and body fluid type samples. To also provide general guidelines for forwarding samples for DNA analysis.

B. RESPONSIBILITY:

Forensic Science Examiners from the Connecticut State Forensic Science Laboratory who have been trained in the discipline of physical evidence examination according to SOP-FB-31 (Training Manual) and SOP-GL-4 (LIMS/Justice Trax).

C. PROCEDURE:

THE FOLLOWING SHOULD BE NOTED:
This information is a general guideline for the collection of evidence for DNA testing. A trained analyst should always use their judgement and experience when examining evidence. The analyst should always take into account the type, condition, and quantity of the evidence being examined.

1. If you have a reasonable expectation that more sample remains on the item and could be collected in the future, then there is no consumption issue.

2. Collect samples with swabs moistened with dH_2O.

3. When more than one swab is used to collect a sample, the swabs will be collected simultaneously.

4. If blood is also present, then collect the sample accordingly.

EVIDENCE PREVIOUSLY EXAMINED by the LATENT PRINT SECTION

1. If the Latent Print Section has designated an area (i.e. 'LP1') on an item of evidence, a sample from this area may be collected **only** after consulting with the Latent Print examiner to determine if it is acceptable and appropriate.

2. Once this has been determined and documented, collect a sample from the designated area using one swab. If there is more than one designated area, it is the discretion of the examiner to collect each area separately using one swab or to collect multiple areas simultaneously using 1 or 2 swabs.

C. 3. Each case will be evaluated to determine which of these samples, if necessary, should be forwarded for DNA analysis.

No Suspect/Suspect (no arrest): Send what you collected to DNA.
Suspect (arrested): Send what you collected to DNA (**consumption issue**).

GUNS

Note: If the gun has been super glued, swab vigorously when collecting the sample to penetrate beneath the super glue layer.

1. If there is a designated latent print area, please follow the instructions in the section Evidence Previously Examined by the Latent Print Section prior to sample collection.

2. Lesser Crimes (illegal possession/shots fired/weapons charge/found gun)

A. Small gun (hand gun, revolver etc.)

Collect one sample from the entire gun using two swabs.
No Suspect/Suspect (no arrest)/Suspect (arrested): Send one swab to DNA.*

If necessary, collect a sample from the trigger separately using one swab (don't send initially).
No Suspect/Suspect (no arrest): Send what you collected to DNA.
Suspect (arrested): Send what you collected to DNA (**consumption issue**).

B. Large gun (rifle, shotgun etc.)

Collect one sample from the entire gun using three swabs.
No Suspect/Suspect (no arrest)/Suspect (arrested): Send one-and-a-half swabs to DNA.*

If necessary, collect a sample from the trigger separately using one swab (don't send initially).
No Suspect/Suspect (no arrest): Send what you collected to DNA.
Suspect (arrested): Send what you collected to DNA (**consumption issue**).

*Evaluate on a case-by-case basis. If the entire sample collected is forwarded to DNA and a suspect has been arrested then the **consumption issue** must be addressed.

C. 3. Serious Crimes (homicides/assaults/shooting with injury/robbery)

A. Small gun (hand gun, revolver etc.): Collect a sample from each area using one or two swabs.

No Suspect/Suspect (no arrest): Send what you collected to DNA.
Suspect (arrested): Send what you collected to DNA (**consumption issue**).

Send the sample(s) from the appropriate area(s) to DNA according to the case scenario.

B. Large gun (rifle, shotgun etc.): Collect a sample from each area using one or two swabs.

No Suspect/Suspect (no arrest): Send what you collected to DNA.
Suspect (arrested): Send what you collected to DNA (**consumption issue**).

C. Unfired Cartridge: Collect a sample using one swab. If multiple cartridges are submitted, collect one sample from all cartridges using two swabs.

No Suspect/Suspect (no arrest): Send what you collected to DNA.
Suspect (arrested): Send what you collected to DNA (**consumption issue**).

Note: If there is case information that an individual picked up a fired cartridge casing then swab as above. If there is no information to this effect then do not swab the fired cartridge casing.

D. Magazine: Collect a sample using two swabs.

No Suspect/Suspect (no arrest): Send what you collected to DNA.
Suspect (arrested): Send what you collected to DNA (**consumption issue**).

For additional information, please refer to the Work Instructions for the Documentation and Collection of DNA Samples from Firearm Evidence in SOP-FB-31 (Training Manual).

KNIVES

Note: If the knife has been super glued, swab vigorously when collecting the sample to penetrate beneath the super glue layer.

C. 1. If there is a designated latent print area, please follow the instructions in the section Evidence Previously Examined by the Latent Print Section prior to sample collection.

2. Collect a sample from the handle area using one or two swabs.

No Suspect/Suspect (no arrest): Send what you collected to DNA.
Suspect (arrested): Send what you collected to DNA (**consumption issue**).

3. If requested or necessary, collect a sample from the blade area using one or two swabs.

No Suspect/Suspect (no arrest): Send what you collected to DNA.
Suspect (arrested): Send what you collected to DNA (**consumption issue**).

UNDERPANTS

Collect samples from each area according to the case scenario using two swabs:
a. One sample from exterior hip and waistband areas.
b. One sample from interior front panel and crotch areas.
c. One sample from interior back panel and crotch areas.

No Suspect/Suspect (no arrest): Send what you collected to DNA.
Suspect (arrested): Send what you collected to DNA (**consumption issue**).

WEARER

1. Collar: Collect a sample from the interior collar using two swabs.
No Suspect/Suspect (no arrest)/Suspect (arrested): Send one swab to DNA.

Optional: Collect one sample from both interior sleeve cuffs using two swabs.
Don't send to DNA initially but retain.

2. Hat: Collect a sample from the interior rim using two swabs.

No Suspect/Suspect (no arrest)/Suspect (arrested): Send one swab to DNA.

Optional: Collect a sample from the brim using two swabs.
Don't send to DNA initially but retain.

C. **CIGARETTE BUTTS/BLUNTS**

1. Collect approximately ¼" of the ~~entire~~ unburnt filter end of a cigarette butt and send ~~an □1/8"-3/16" (□0.3cm-0.5cm) length of the un-burnt end~~ half to DNA.

2. Collect approximately ½" of ~~the same amount from~~ the unburnt end of a ~~B~~blunt (include any flattened area ~~of the un-burnt end~~). Send half to DNA. Remove any tobacco-type material from the interior if possible and return with blunt.

PAPER (notes, cards, calendar sheets etc.)

1. If there is a designated latent print area, please follow the instructions in the section Evidence Previously Examined by the Latent Print Section prior to sample collection.

2. If requested or necessary, collect a sample from the remaining paper surfaces using two swabs.
   No Suspect/Suspect (no arrest): Send two swabs to DNA.
   Suspect (arrested): Send two swabs to DNA (**consumption issue**).

3. If there are no designated latent print areas, collect a sample from the paper surfaces using two swabs.

   No Suspect/Suspect (no arrest): Send two swabs to DNA.
   Suspect (arrested): Send two swabs to DNA (**consumption issue**).

ENVELOPES

1. If there is a designated latent print area, please follow the instructions in the section Evidence Previously Examined by the Latent Print Section prior to sample collection.

2. Using caution to avoid tearing, begin at one corner of the envelope and gently attempt to pry the flap apart from the envelope with forceps.

3. If the flap does not separate easily, STOP. Proceed to step #5

4. If the flap separates easily and cleanly, continue until it is completely separated from the envelope.

C. 4. a. Collect a sample from the adhesive area of both surfaces using one or two swabs.

b. No Suspect/Suspect (no arrest): Send what you collected to DNA.
Suspect (arrested): Send what you collected to DNA (**consumption issue**).

5. Applying Steam (should be conducted in a hood)
a. Fill a 250ml beaker with approximately 200ml "Milli-Q" purified water and bring to a boil.

Note: Add more "Milli-Q" purified water to the beaker as evaporation occurs.

b. Beginning at one end of the envelope, hold the envelope flap approximately 1" above the steam for approximately 5 minutes. Use caution not to touch the envelope to the beaker.

c. Remove the envelope from the steam. Using forceps, gently and slowly attempt to pry apart the flap in the steamed area, avoid tearing.

If the flap begins to separate from the envelope continue to gently pry it apart until the flap becomes stiff as it dries and will no longer separate.

d. Repeat steps b and c above in the next area of the flap until it is completely separated.

Note: Some envelopes may require numerous applications of steam and increased exposure time (up to ~10 minutes at a time to the point of visible dampness, do not allow the envelope to become saturated). Use extra caution to avoid tearing.

e. Collect a sample from the adhesive area of both surfaces using one or two swabs.

No Suspect/Suspect (no arrest): Send what you collected to DNA.
Suspect (arrested): Send what you collected to DNA (**consumption issue**).

f. If unable to separate the flap from the envelope, collect a cutting along the adhesive area of the flap, measuring approximately 4cm x 1cm in size. This cutting should include both the flap and envelope layers.

No Suspect/Suspect (no arrest)/Suspect (arrested): Send half of the cutting to DNA.

~~2. Steam open the adhesive area of the flap. Use forceps to pry open the flap as needed. Collect a sample from the adhesive area using one or two swabs. Use the same method for self-~~

~~adhesive envelopes. No Suspect/Suspect (no arrest): Send what you collected to DNA.~~
~~Suspect (arrested): Send what you collected to DNA (**consumption issue**).~~

C. 6. To remove a stamp from an envelope repeat steps 2-5d above. ~~If there is a stamp on the envelope, apply steam and pry it off.~~

a. Collect a sample from the adhesive ~~side~~ area of both surfaces using one swab.

b. If unable to separate the stamp from the envelope, collect the stamp by cutting through the envelope layer. Don't send to DNA initially but retain.

7. Record the lot # of the water used to collect the sample(s) on the appropriate Quality Record worksheet.

BOTTLES/CANS

1. If there is a designated latent print area, please follow the instructions in the section Evidence Previously Examined by the Latent Print Section prior to sample collection.

2. Collect a sample using two swabs from the exterior mouth opening and interior cap if present.

   No Suspect/Suspect (no arrest)/Suspect (arrested): Send one swab to DNA.

3. If requested or necessary, collect a sample from the exterior body area of the bottle or can using two swabs.

   No Suspect/Suspect (no arrest): Send what you collected to DNA.
   Suspect (arrested): Send what you collected to DNA (**consumption issue**).

4. If multiple bottles/cans are submitted for one case, then collect samples from only the mouth and cap area of each bottle/cans (individually).

BLOODSTAINS

1. Heavy bloodstain swab: Send half of the swab to DNA.

2. Light bloodstain swab:
   No Suspect/Suspect (no arrest): Send one swab to DNA.
   Suspect (arrested): Send one swab to DNA (**consumption issue**).

3. If the case scenario indicates that a sample collected by the submitting agency was previously

treated with a field test, then send the swab directly to DNA without serological testing.

C. **SEXUAL ASSAULT CASES**

1. If 2+/3+/4+ sperm
   No Suspect/Suspect (no arrest): Send one swab to DNA.
   Suspect (arrested): If more than one swab remains, send one swab to DNA.
   If one swab remains, send the swab to DNA (**consumption issue**).

2. If 1+ sperm or (+) RSID-Semen/(+) p30
   No Suspect/Suspect (no arrest): Send up to three swabs to DNA.
   Suspect (arrested): If more than three swabs remain, send three swabs to DNA.
   If three or less swabs remain, send up to three swabs to DNA (**consumption issue**).

CONDOMS

1. If the interior or exterior is positive for AP, collect a sample from the interior and/or exterior (separately) using four swabs. If visible material (strong positive AP) remains on the interior or exterior of the condom then the examiner may collect more than four swabs.

   If 2+/3+/4+ sperm
   No Suspect/Suspect (no arrest)/Suspect (arrested): Send one swab to DNA.

   If 1+ sperm or (+) RSID-Semen/(+) p30
   No Suspect/Suspect (no arrest)/Suspect (arrested): Send three swabs to DNA.
   Note: Evaluate test results to determine if there may be a consumption issue.

   If (-) semen
   No Suspect/Suspect (no arrest): Send three swabs to DNA.
   Suspect (arrested): Send three swabs to DNA (**consumption issue**).

2. If the interior or exterior is negative for AP, collect a sample from the interior and/or exterior (separately) using two swabs.

   No Suspect/Suspect (no arrest): Send what you collected to DNA.
   Suspect (arrested): Send what you collected to DNA (**consumption issue**).

C. **SALIVA (Amylase)**

1. If (+)/weak (+) Amylase:
   No Suspect/Suspect (no arrest): Send all remaining swabs (up to three) to DNA.
   Suspect (arrested): Send all remaining swabs (up to three) to DNA (**consumption issue**).

2. If strong (+) Amylase:
   No Suspect/Suspect (no arrest): Send one swab to DNA.
   Suspect (arrested): If more than one swab remains, send one swab to DNA.
   If one swab remains, send the swab to DNA (**consumption issue**)

FINGERNAIL SCRAPINGS/CLIPPINGS

1. Before collecting a sample, visually or microscopically inspect the submission for any tissue-like material, blood-like stains or debris. If a microscopical examination was conducted, record on the appropriate Quality Record Worksheet.

2. To collect the best sample, swab the tip end of the nail fragment and avoid the nail bed area.

3. If a microscopical examination is conducted and no Forensic Biology report is generated, then DNA will address in their report.

4. Fingernail scrapings/clippings may be submitted to the Laboratory as follows: a sample collected from each finger and packaged separately, samples collected from each hand and packaged separately or a sample collected from each finger and packaged together.

   a. Fingernail scrapings/clippings packaged separately:

      Collect a sample using one swab from each scraping/clipping (separately). Include tissue-like material, blood-like stains or debris if present.

      No Suspect/Suspect (no arrest): Send one swab to DNA.
      Suspect (arrested): Send one swab to DNA (**consumption issue**).

   b. Left and right hand samples packaged separately:

      aa. If no tissue-like materials or blood-like stains are present, collect a sample from the entire contents of each package using one swab.

C. 4. b. aa. No Suspect/Suspect (no arrest): Send one swab to DNA.
Suspect (arrested): Send one swab to DNA (**consumption issue**).

bb. Nail fragments containing tissue-like material and/or blood-like stains should be collected separately from nail fragments without tissue-like material or blood-like stains using one swab for each.

No Suspect/Suspect (no arrest): Send one swab to DNA.
Suspect (arrested): Send one swab to DNA (**consumption issue**).

cc. If there is a large quantity of tissue-like material or blood-like stains present, then collect a portion of the material/stains using one swab and retain the remaining contents.

No Suspect/Suspect (no arrest)/Suspect (arrested): Send one swab to DNA.

c. All fingernail scrapings/clippings packaged together:

aa. If no tissue-like materials or blood-like stains are present, collect a sample from the entire contents of the package using one swab.

No Suspect/Suspect (no arrest): Send one swab to DNA.
Suspect (arrested): Send one swab to DNA (**consumption issue**).

bb. Nail fragments containing tissue-like material and/or blood-like stains should be collected separately from nail fragments without tissue-like material or blood-like stains using one swab for each.

No Suspect/Suspect (no arrest): Send one swab to DNA.
Suspect (arrested): Send one swab to DNA (**consumption issue**).

cc. If there is a large quantity of tissue-like material or blood-like stains present, then collect a portion of the material/stains using one swab and retain the remaining contents.

No Suspect/Suspect (no arrest)/Suspect (arrested): Send one swab to DNA.

5. Forward appropriate samples to DNA according to the case scenario and the Forensic Biology results.