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Manufactured by Manta Forensic

2013 – 2014

An excerpt from the Official User Guide Manual for D3 Reference Hair Sample Collection Kit

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D3 User Guide Manual

Below is the examination process for the DNA Evidence from Body Collection.

If you are using the **D3** DNA Reference Hair Sample Collection Kit to collect evidence samples, you need to follow;

PROCESS 1 : **PROCESS 2** : and **PROCESS 3**

If you are making use of any of the other kits during the examination process, ensure that you have all the required kits with you before you start. All selected kits should be used during the same examination period.

NOTE: Only **ONE** kit must be open at a given time. Open one kit, do the collection, including the kit's documentation and seal the completed evidence sealing bag. Only now may you open the another kit.



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Principles And How To Use This Kit

When collecting samples for forensic DNA analysis, the following principles should be strictly adhered to:

- **Avoid contamination.** Ensure that evidence is not contaminated by other materials. Wear gloves at all times. Change them when necessary. Modern DNA assay systems are very sensitive and may detect small amounts of extraneous material.
- **Collect early.** Try to collect forensic DNA evidence as soon as possible. The likelihood of collecting evidentiary material decreases with the passing of time. Ideally, evidence should be collected within 24 hours of the assault; after 72 hours, yields are reduced considerably.
- **Handle appropriately.** Ensure that specimens are packed, stored and transported correctly.
- **Package in correct container.** All samples must be packaged in the correctly labeled containers in the evidence collection kit.
- **Ensure security.** Samples should be packed to ensure that they are secure and tamper proof. Collected kits must be sealed with the supplied Tamper Evident Seal. After sealing it must be placed in the supplied Evidence Sealing Bag. Only authorized people should be entrusted with samples.
- **Maintain continuity.** Once evidence has been collected, its subsequent handling should be recorded. Details of the transfer of the evidence between individuals should also be recorded.
- **Document collection.** It is important to complete the Reference Hair collection Kit from an Adult Patient of Sexual Assault form completely.

HOW TO USE THIS D3 REFERENCE HAIR SAMPLE COLLECTION KIT

Before starting any evidence collection procedure, first attend to any serious medical conditions your patient may have received.

Follow any protocol that your facility may have in place on patient treatment before starting with your patient evidence collection.

Please Note: If possible, a urine sample should not be taken from the patient before the sexual assault evidence collection takes place as this may wash away any DNA evidence.

If you are planning on a full body evidence gathering examination, you will require the following kits:

In order of examination sequence

1. **D3 Reference Hair Samples** – For the collection of both scalp hair and pubic hair.
2. **D5 Clothing Collection Kit** – To collect your patients clothing so that the SAPS Forensic Laboratory can analyze them for additional evidence.
3. **D2 DNA Evidence Collection from Body Kit** – Searching for perpetrators bite marks, blood, saliva and debris from your patient's body.
4. **D1 Adult Sexual Assault Evidence Collection Kit** – To collect swab samples from the genital area of you patient.
5. **D6 Tissue Collection from Body Kit** – To collect tissue samples from a deceased individual

NOTE: VERY IMPORTANT

If you are using two or more of the above kits it is very important to work with one kit at a time from start to finish. Open the kit, perform the collection as required, fill in the documentation, seal all Evidence collection bags and place the bags safely to one side. Change your gloves for new gloves and only then open the next kit.

This procedure applies to any examination where you make use of more than one kit. NO exceptions.

D3 Kit Content

If this **D3** Reference Hair Samples Collection Kit is being used in an examination with other evidence collection kits such as **D1**, **D2** and/or **D5**, ensure that all the other collection kits are complete, sealed and packed away.

- Inspect the kit for any tampering, tears or breaks in the packaging
- If tampering or damage is evident do not use this kit and get another one
- Place the kit on a sturdy clean surface away from patient
- Put on a clean pair of disposable gloves
- Tear open the bag along the dotted tear line at the top of the bag. Do not use a knife or scissors as this might cut into the contents of the bag
- Place the contents of the kit onto a smooth clean surface

Identifying the contents of the kit

Peel Pouch - STEP 1 (sterilized)

This sterilized peel pouch contains everything required to gather reference hair samples from the scalp and from the public area from your patient.

- 2 catch papers
- 2 Tamper Evident Seals

Non-sterilized items

Additional items found in the kit are:

- Medical practitioner / Patient documentation in triplicate
- A zip-lock plastic bag that holds desiccant packets (desiccants remove moisture)
- A large clear plastic bag known as an Evidence Sealing Bag. This bag will hold the sealed catch papers and documentation

PROCESS 1 - Documentation

Collection of Forensic Evidence Form

The first section of the form is the Identifier of the evidence sealing bag. The identifying number can also be seen on the Evidence Sealing Bag supplied inside the kit. This forms part of the traceability of evidence and ensures that the contents sealed inside the Evidence Sealing Bags can be traced and matched to the information found on the documentation.

The following information should be included on this form:

1. **Evidence Collector** Information and Signature

Please complete this section with as much detail as possible and sign your name. Should it be necessary please assist the patient in completing the section under "Individual".

2. **Individual** Information and signature

This part must be completed by the patient (or by you), as detailed as possible. It must be signed by the patient or his / her legal guardian. It is essential to obtain authorization for the collection of evidence.

3. **Samples Collected**

This section is to record what was collected, which samples were taken and from which part of the body the swabs were used on. It is recommended that as you collect a sample or item, you immediately write it on the form. Here is an example:

- **Catch Paper 1** PULLED SCALP HAIR
- **Catch Paper 2** PULLED PUBIC HAIR

- A NOTES area has been included on the form in case you have any additional information that the SAPS Forensic Science Laboratory may be interested in.

4. **End of Collection**

This form is in triplicate, the **top copy** must be packed into the larger Evidence Sealing Bag along with the CATCH PAPERS. The **middle copy** is to be kept by you for your records and the **bottom copy** gets handed to the Law Enforcement Officer that will collect the Evidence Sealing Bag. (DO NOT staple the form to the Evidence Sealing Bag.)

PROCESS 2 – Pulling Hair (Scalp and Pubic Hair)

Step 1 – Scalp Hair

VERY IMPORTANT: Do not pull reference scalp hair with tweezers.

Samples required for this collection

The hair follicle at the base of human hair contains cellular material rich in DNA. The hair must have been pulled from the body, ensuring the root is pulled out, so that DNA analysis can be done. Hairs that have broken off do not contain DNA and cannot be used for DNA analysis.

If the patient prefers they may pull their own hair in your presence.

It is suggested that scalp hairs should be representative of the left temple, right temple, crown, front and back of the neck (nape). At least 5 hairs from each area should be submitted. If a beard is present, include beard hair.

- Open the peel pouch STEP 1 and remove the catch papers
- Open one catch paper to collect reference hair samples from the scalp
- With gloved hands, separate a few hairs from the others on the scalp and move down the hair as close as possible to the scalp

- With two fingers, hold down the scalp on each side of the hair and with the other hand; pull hairs quickly and close to the scalp
- Place the pulled hair onto the catch paper
- Refold the catch paper:
 1. Hold the catch paper with the small folding edge at the top (furthest away from you). Shake all the collected items into the sample area
 2. Fold left folding edge onto center part (sample area)
 3. Fold right folding edge onto left folding edge
 4. Fold bottom folding edge up
 5. Fold top folding edge down
 6. Seal contact area with a Tamper Evident Seal
- Write on the label marked "ITEM COLLECTED" in capital letters what was collected ie PULLED HAIR FROM SCALP

Step 2 – Pubic Hair

This step must be followed if the patient has pubic hair present, if not continue to **PROCESS 3 : SEALING COLLECTED EVIDENCE**

VERY IMPORTANT: Do not pull reference scalp hair with tweezers.

Samples required for this collection

As with scalp hair the hair follicle at the base of human hair contains cellular material rich in DNA. The hair must have been pulled from the body, ensuring the root is pulled out, so that DNA analysis can be done. Hairs that have broken off do not contain DNA and cannot be used for DNA analysis.

VERY IMPORTANT: The pubic hair should be **pulled** and **not cut**

If the patient prefers they may pull their own hair in your presence.

Hair from at least four areas of the pubic region must be collected. At least three to four hairs from each area should be taken.

- Remember to put on a clean pair of gloves.
- If the patient is wearing panties, ask them to remove their panties and sit them in a comfortable position.
- Open the second catch paper to collect reference hair samples from the pubic area.
- With the patient's consent and using gloved hands, pull reference hair for microscopic screening.
- Obtain 10 to 15 hairs from various areas of the pubic regions.
- The hair should be pulled and not cut, two to three strands at a time with the **thumb** and **forefinger**.
- Place the pulled hair onto the catch paper,
- Refold the catch paper:
 1. Hold the catch paper with the small folding edge at the top (furthest away from you). Shake all the collected items into the sample area
 2. Fold right folding edge onto center part (sample area)
 3. Fold left folding edge onto left folding edge

4. Fold bottom folding edge up
5. Fold top folding edge down
6. Seal contact area with a Tamper Evident Seal

- Write on the label marked “ITEM COLLECTED” in capital letters what was collected ie PULLED HAIR FROM PUBIC AREA

PROCESS 3 – Sealing The Collected Evidence

You should now have: Two sealed catch papers containing the hair samples

If this is correct you may place them in the Evidence Collection Bag along with:

- 2 loose desiccants packets (remove them from the zip-lock bag)
- The top copy of the completed and signed information form
- Seal the Evidence Sealing Bag by peeling away the yellow backing tape. Start peeling the yellow tape from one side while pressing the sticky surface closed. Continue peeling the yellow tape and pressing closed until the bag is sealed. Apply pressure to ensure that the seal is completely sealed
- If the law enforcement officer **is not** available to collect immediately, then store the kit in a safe location.
- If the law enforcement officer is available to collect:

Ask the attending / collection officer to write the Station Name, Reference Type and CAS Number (Reference Number) on the case reference label that is located on the front of the Evidence Collection Bags

- Ask the attending/collecting officer to sign acceptance of the Evidence Collection Bags to Law Enforcement on your copy of the information form.

Questions And Help

If you have any questions or have experienced problems with the evidence collection kit, please contact us on our email address janette.petzer@lithahealthcare.com

You are asked to quote the following numbers in your query.

- Barcode number – Each kit works with a unique barcode number and can be found on all major items in the kit.
- Lot number
- The problem experienced – Please supply us with a description of what problems were experienced.