
DNA AND BIOLOGICAL EVIDENCE

6102.1 PURPOSE

This procedure provides guidelines for processing for DNA and biological evidence. Deoxyribonucleic acid, commonly referred to as DNA, is a molecule responsible for carrying genetic material. DNA is unique to an individual, with the exception of identical twins. This makes DNA a potentially useful tool for identification purposes.

6102.2 PERSONAL PROTECTIVE EQUIPMENT

When evidence is handled, there is a possibility of contamination of the evidence, and the possibility of the handler being exposed to any substances present. Every reasonable effort should be made to minimize these contamination and exposure possibilities. Proper use of personal protective equipment (PPE), as detailed below, is the first line of defense against possible contamination and exposure.

An appropriate mask should be worn. The mask should be donned prior to donning gloves so that any contact with hair or skin does not contaminate the gloves. A dust mask is typically sufficient when processing for possible biological evidence.

Appropriate gloves should be worn when handling evidence items in order to preserve possible biological evidence, and when processing items for possible biological evidence.

Personnel should make every reasonable effort to change gloves frequently when processing for possible biological evidence. This minimizes the risk of cross-contamination due to the gloves transferring potential biological evidence. It is recommended a 'base' pair of gloves be worn, with another layer of gloves on top. This facilitates changing the top layer of gloves with frequency, while the 'base' layer of gloves remains and helps protect against possible contamination.

Certain individuals have been found to 'shed' more DNA than others, and as such, the wearing of long-sleeved shirts or disposable protective sleeves is recommended when appropriate.

6102.3 SWABBING TECHNIQUE

Sterile single-use swabs are the primary method for the collection of most DNA evidence located at crime scenes, on evidence items, or on involved subjects. Swabbing for DNA evidence is typically completed in the following manner. Adjustments can be made depending on the specific circumstances of the situation.

1. Don appropriate PPE (at minimum gloves and mask).
2. Label the exterior of the individual packaging sleeve for each sterile single-use swab to be collected.
3. Open the packaging sleeve and, using the handle end, remove the swab from the packaging.
4. **DO NOT LET THE SWAB HEAD COME INTO CONTACT WITH ANY AREA/ITEM BUT THE INTENDED SAMPLE AREA/ITEM.**

Santa Ana Police Department

Santa Ana PD Procedures Manual

DNA AND BIOLOGICAL EVIDENCE

5. If swabbing a dried sample or processing for touch DNA, lightly moisten the tip of the swab head with distilled or sterile water.
6. Vigorously rub the swab over the area or stain in question.
7. Return the swab, head first, into its individual packaging sleeve.
8. Allow the swabs to completely air dry.
9. Individually packaged swabs can be placed into paper evidence packages and stored in secured evidence freezers
10. Individually packaged swabs collected from similar areas/items of evidence may be packaged together into one paper evidence package.
11. Individually packaged swabs from biological fluid samples should be packaged in different paper evidence packages from touch DNA samples.

6102.4 BODILY FLUIDS

Nearly every cell in the body contains DNA, and as such, many bodily fluids, along with tissues, contain DNA. Blood, saliva, semen, and vaginal fluid are among the bodily fluids most commonly located at crime scenes, however, a search should always be made for any potential bodily fluid that may contain biological evidence.

1. Blood may be present at scenes, on items of evidence, or on involved subjects. Blood may be liquid or dried. In most circumstances, photographs should be taken of the blood prior to collection/processing. Liquid blood should be collected using sterile single-use swabs (per the above recommendations). If the liquid bloodstain is large (i.e. pooled blood), liquid blood sample swabs should be collected from the outer edges of the stain. Smaller stains may be swabbed in their entirety
 - (a) Dried blood can be collected using a sterile single-use swab moistened with distilled sterile water. Dried blood can also be scraped, with the flakes collected in a weigh paper bindle.
2. Biological fluids may be present at scenes, on items of evidence, or on involved subjects. If the biological fluid sample is a wet stain, it can be collected using sterile single-use swabs. If a biological fluid sample is a dried stain, it can be collected using a sterile single-use swab moistened with distilled sterile water.
 - (a) When biological fluid samples are located on clothing or other porous surfaces, the entire object, or a sufficient representative cutting if an object is too large to collect, can be collected and booked for processing at the Orange County Crime Lab. Examples may include items such as cigarette butts, chewed gum, underwear, carpet, etc

6102.5 TRACE/TOUCH DNA

In addition to bodily fluids, trace amounts of DNA evidence can also be transferred and left behind by touch. This biological evidence is commonly referred to as trace or touch DNA. Touch DNA is thought to be the result of shed skin cells or cells contained in exhaled saliva coming into contact with the scene or evidence items. Touch DNA is not visible to the naked eye. Personnel should

Santa Ana Police Department

Santa Ana PD Procedures Manual

DNA AND BIOLOGICAL EVIDENCE

make logical, informed decisions on the areas most likely to contain possible touch DNA and focus their processing efforts accordingly.

Touch DNA can be collected using a sterile single-use swab moistened with distilled sterile water and rubbed vigorously over the area in question.

6102.6 DOCUMENTATION/PRESERVATION

Swabs should be labeled accurately. This includes, at minimum, a description of the item or area swabbed on the individual swab packaging sleeve, and the case number, the date and time of collection, and the name and badge number of the person collecting the swab(s) on the evidence packaging containing the swab(s).

Biological evidence, including swabs, should be allowed to completely air dry in a secure area. Once dry, the biological evidence should be booked into the evidence freezer to facilitate preservation of the evidence.

6102.7 KNOWN STANDARDS

Every reasonable effort should be made to collect known standards when available. Known standards of biological evidence are samples taken directly from an individual for identification purposes. Known standards are collected in the form of buccal (cheek) swabs. It is not currently the practice or policy of the Forensic Services Section to collect any other type of biological fluid directly from an individual.

Consent or a signed search warrant should be obtained prior to collection of buccal swabs from an individual. Consent can either be given verbally and recorded on body worn camera per the Body Worn Camera Policy or in writing using the appropriate Consent to Search form. Buccal swabs can be collected from an individual using sterile single-use swabs. Appropriate PPE (i.e. mask and gloves) should be worn. The swab(s) should be rubbed vigorously along the inside of the cheeks for several seconds. The swab can then be placed back into its individual swab sleeve. The swab must be allowed to air dry completely before it can be stored in a secure evidence freezer. Signed consent forms should be booked into evidence, separately from the swabs.

Buccal swabs collected from related victim or witness family groups may be packaged together into one paper evidence package, provided each individual swab is in its own individual packaging sleeve. Buccal swabs collected from suspects **MUST ALWAYS** be packaged in a separate paper evidence package. Suspect buccal swabs must never be packaged with other buccal swabs or with evidentiary swab samples.

6102.8 RAPID DNA

The Department participates in the OCDA RAPID DNA Program. The RAPID DNA Program allows for a fast DNA analysis of samples involving biological fluid, including, but not limited to: blood, semen, and saliva. If biological fluids are located at a crime scene or on items of evidence, collection of a sample for the RAPID DNA Program should be considered. The OCDA's Rapid DNA kit shall be utilized to collect samples for the Rapid DNA program.

Santa Ana Police Department

Santa Ana PD Procedures Manual

DNA AND BIOLOGICAL EVIDENCE

The Orange County Crime Lab is the primary lab responsible for DNA analysis of all samples collected by our Department, and as such, all primary samples must be submitted to them. If there is sufficient quantity of a fluid or sample for a second swab, THEN a RAPID DNA sample can be obtained.

When dealing with items containing potential saliva, such as cigarette butts or chewed gum, it is permissible to halve the item and send one half to the Orange County Crime Lab and one half to the RAPID DNA Program. Items should be halved using a sterilized or single-use disposable scalpel.

Samples for the RAPID DNA Program should be clearly labeled as such. The swabs/samples should be allowed to air dry completely and then stored in a secure evidence freezer.