

UNDER *the* SCOPE



MISSOURI STATE HIGHWAY PATROL • CRIME LABORATORY

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To improve efficiency, please notify the lab if analysis of your evidence is no longer required.

Submit only the evidence with the best chance of generating a usable DNA profile.

If you see blood on a touch type item, please tell us that information on the analysis request form; otherwise, we might wrongly consider it unsuitable and not even exam it.

How To Handle Touch DNA

Obtaining DNA profiles from skin cells left behind on crime scene items that have been touched or come into contact with the skin is commonly referred to as “touch DNA” analysis. The ability of analysts to obtain DNA profiles from such items has opened up a world of possibilities for officers to use to link people to crime scenes. However, this powerful tool does have limitations. In this issue, we explore the obstacles associated with touch DNA as well as provide assistance for its appropriate use.

A good guide to follow when investigating most crime scenes for DNA (particularly property crimes) is to look for something that a suspect left behind in the commission of the crime. There is a “best evidence” preferred order of collection. First, look for blood. Second, look for items that may have saliva contact, such as cigarettes, bottles/cans, or gum. Lastly, if blood and/or saliva contact items are not present, then you MAY consider items for “touch DNA” analysis, which is the least preferred DNA source.

The reason touch DNA is the least preferred DNA source is because the person has to touch the item for an extended period of time and/or repeatedly touch the item several times to leave a sufficient amount of skin cells to generate a usable DNA profile. Shirt collars, hats, and masks are considered acceptable for touch DNA, since those items are expected to have come into contact with the skin for a long period of time and are expected to have been used by only one person.

Touch DNA consistently fails for items that have not come into contact with the skin long enough to leave behind enough skin cells, such as objects thrown through windows, jewelry boxes, drawer handles, or padlocks. Additionally, items that are expected to have been used by several people (like public door handles) are not suitable for touch DNA because of the resulting unusable mixture profiles.

The lab has seen a dramatic shift in the number of casework requests that would have been for Prints a few years ago, but are now bypassing Prints exams for “touch DNA” analysis instead. For example, we have worked multiple cases where officers see a fingerprint left on a surface, then proceed to swab it for DNA, which

not only destroys a potential print, but more than likely results in an insufficient amount of DNA, too. As a general practice, the Prints section is better suited to handle items that have been minimally touched.

We realize you have one chance to collect all you can from a crime scene. But when it comes time to submit to the lab, be selective so we can be effective. Please submit only your best evidence items (use the hierarchy of blood first, saliva contact second, and then extensively touched items last). Moreover, we request that for property crimes, in particular, that you submit only one item that has the best chance of producing a quality DNA profile.

The DNA lab strives to provide results in a timely fashion, but the DNA backlog is a constant struggle. To better serve all agencies, we would prefer to focus our resources on cases with quality DNA evidence, as opposed to evidence that provides no usable DNA information. A backlog of poor quality evidence produces roadblocks that prevent us from working suitable DNA evidence.

Please use the following guide to assist you in determining suitability for touch DNA:

Suitable touch DNA examples:

- clothing
- hats
- sunglasses/eyeglasses
- steering wheel
- tools brought to a crime scene by suspect

NOT suitable touch DNA examples:

(consider Prints exams, not DNA)

- fingerprints (smudges or partials)
- items moved around at the scene
- windows, screens torn out, window ledges
- objects thrown (rocks, bricks, blocks)
- public items (doorknobs and countertops)
- papers
- CD cases, CDs
- ammunition
- piggy banks, jewelry boxes
- padlocks
- wrappers
- any vehicle handle, knob, seat, or surface other than steering wheel

