

**Today, more than ever, the quality of evidence in criminal cases is scrutinized in the courtroom. Both defense and prosecuting attorneys look to the manner in which evidence is collected and handled to bolster their cases.**

Many trials involve highly technical testimony about the chemistry and biology of evidence and the physics of how it was analyzed. But all that science can easily be thrown out when the method of actually collecting the evidence is in question. It's up to those law enforcement and forensic specialists at the crime scene to ensure that all the I's are dotted and the T's are crossed when it comes to the evidence. The goal should always be to eliminate questions before they become an issue; aim to never lose a case on a technicality. On cases that go to court, any unexplained evidence collected at the scene needs to be identified. Unidentified evidence such as latent fingerprints, shoe tracks, hair, blood, and DNA swabbing will need to be identified. If not identified the question is: Could it be from the actual suspect who committed the crime?

One place crime scene investigators can look to make certain that evidence is of the highest quality is contamination. Contamination is the introduction of something to a scene that was not previously there. Most contamination at a crime scene comes from the humans who investigate it. There are several ways that a crime scene and what is gathered there can become contaminated but a little common sense can alleviate the problem

Evaluating a scene before anyone enters can be key to keeping contamination to a minimum. Careful appraisal can lead to an overall plan as to what needs to be collected and the best means to collect it. This can help decrease the threat of contamination. When doing a preliminary survey of the crime scene to evaluate it as to equipment and manpower needs, be aware of your limits. Some scenes may require the presence of a specialist such as a serologist, blood spatter expert, or latent people to name a few. They may be from other agencies in the area or the local crime lab. Some of the evidence at the scene may need to be evaluated prior to collection. A particular case I assisted with had a large amount of blood and blood spatter at the scene (this was prior to DNA). Three serologists were brought to the scene from the local crime lab and approximately 200 samples were charted and collected. Laboratory examination revealed that several samples collected were not the victim's blood instead it showed that the suspect had been cut.

As the use of low-copy DNA as evidence has progressed over the past few years, more and more DNA is collected at the crime scene itself. Samples must be properly collected and care must be taken not to taint it. For example, if you swab and allow your sample to air dry; then you cough; you have compromised your evidence.

An investigator can do simple things to ensure the integrity of DNA evidence. DNA can be transferred from one crime scene to another through tools. For example, fingerprint brushes can become easily contaminated. Brushes can retain the DNA picked up. To make sure you don't transfer DNA from a brush used at one scene to the next, use a new one at each scene. This is most important on homicide cases where the DNA may be the determining factor. In fact, on homicides, the brush used should become part of your overall evidence. Remember that not only the brush used, but the powder itself can become contaminated. While magnetic applicators can be cleaned with 10% bleach (or you can use disposable ones) fiberglass brushes cannot be easily cleaned and reused. The \$6 or \$9 you spend on a new brush is a small price to pay for alleviating questions about your evidence.

Another easy way to reduce contamination at a crime scene is to change your gloves often. The use of gloves does not guarantee that there will be no contamination. Gloves can become contaminated by the obvious means: touching blood and other fluids, as well as the not so obvious ways: scratching your nose or covering your mouth when you sneeze. Gloves are cheap. Every time you think your gloves have been compromised, change them.

Contamination comes in many forms. Investigators can even compromise and contaminate a crime scene with their own footprints or tire marks. Be careful not to jeopardize the integrity of a scene with these easy-to-avoid contaminants.

These simple methods of keeping contamination of evidence to a minimum are especially critical while investigating a homicide. Homicide crime scenes are ripe for potential DNA evidence. Collect numerous samples. Collect as much evidence as possible. Remember that with today's technology, even if DNA can't be lifted from a sample in the present, new methods may be available in the future.

Eliminating contamination at a crime scene can make or break a case. Changing technology, media attention, and even the popularity of forensic and crime scene television shows have made attorneys and potential jury members savvy enough to look to the evidence to prove a case definitively. The role of the crime scene investigator will be highly scrutinized in all cases. How was the evidence collected? Was it compromised in any way? How do we know? By carefully following common sense rules and methods to reduce contamination, can go a long way in eliminating the need to ask these questions.