

90 Minutes Can Change Everything:

It's time to expedite crime-solving with Rapid DNA

Every minute that a crime remains unsolved is time for someone else to become a victim. Imagine what can happen when DNA testing takes only minutes, instead of days, weeks, or even months. With the ability to process DNA in as little as 90 minutes, Rapid DNA instruments can provide actionable intelligence to immediately impact an investigation, or link suspects with past crimes while they are still in custody. Rapid DNA can help get criminals off the street faster, prevent the needless arrest of innocent individuals and keep your communities safe.

Most law enforcement executives have come to appreciate the power of DNA in law enforcement investigations. Traditionally, DNA is used on the back side of the investigation and limited mostly to serious crimes against persons. Most crime labs are overwhelmed with the volume of DNA analysis requests, which can result in time delays, and a prioritization of major crimes against persons. I experienced this personally on numerous occasions throughout my law enforcement career.

As an example, while serving as the Police Chief in Bluffton, South Carolina, our community experienced a high-profile homicide. As with most homicides we spent considerable time and manhours chasing down the numerous rumors, tips and credible leads. We were able to identify a suspect early on and had enough probable cause to arrest. After presenting the evidence to the Solicitor we were asked to wait on arresting the suspect until we received DNA results back from the lab. We found ourselves, as happens frequently across the country, waiting on DNA results on the back side of our investigation. We lacked the manpower to place this individual under 24/7 surveillance. As Chief, my biggest fear is that he would harm another of my residents while we waited for the results. There was public outcry and we were constantly getting beat up in the media for taking too long to make an arrest. I remember wishing at the time that there was some way to have used DNA earlier in the investigation. Little did I know that five years later I would be working for a company, Thermo Fisher Scientific, that would be doing just that, providing tools that allow for expedited DNA testing.

Although Rapid DNA has been around for several years, the technology has recently advanced to the point where its cost effectiveness and ease of use make it a “must have” for law enforcement agencies. Rapid DNA technology is available as a compact, easy-to-use system that enables law enforcement to generate forensic DNA results in virtually any setting in as little as 90 minutes. The DNA results are compatible with established databases, and can immediately impact an investigation, connect suspects with past crimes, exonerate innocent suspects or identify victims.

Law enforcement agencies that have been early adopters of Rapid DNA technology are seeing the benefit of Rapid DNA in their individual agencies and communities. Just a few of these benefits can be seen in the following examples:



Arizona Department of Public Safety introduced Rapid DNA in 2014. As of June 2020, Rapid DNA was used in 530 cases and generated 170 investigative leads.



Bensalem Township Department of Public Safety in Pennsylvania started a local DNA database in 2010 and added Rapid DNA in 2017. To date they have seen a 42% reduction in property crime.



Orange County District Attorney’s Office in California started a Rapid DNA program in 2015. As of May 2020, they have processed 427 cases resulting in 138 investigative hits.



Kaua’i Police Department (KPD) used Rapid DNA to quickly identify the victims from a helicopter crash, saving the cost of outsourcing analysis and bringing closure to the families in days instead of months. KPD estimates that for this one case Rapid DNA saved them between \$20,000 to \$30,000.



New Castle County Police Department in Delaware has compiled 1905 reference profiles in their database since implementing their program in June of 2016. As of September 2020, they have had 1135 DNA hits that aided in 530 cases. More than 50% of these hits were to crime suspects.

As seen in the Bensalem Public Safety example above, Rapid DNA can have a big impact on property crimes. We all know that a small percentage of people commit a large percentage of the crime in our communities. Our communities depend on us to quickly identify and prosecute these criminals to get them off the streets so they do not continue to offend. Property crimes make up a large percentage of any jurisdiction's overall crime. Crimes like auto theft, and thefts from autos, larceny and burglary are usually committed by habitual offenders. If we can catch the habitual offenders, we can prevent future crimes. Yet, these crimes have traditionally had fewer resources devoted to them than more serious offenses like murder, rape and robbery. Crime labs have limited resources for DNA evidence processing. If the crime lab accepts property crime evidence it is given a low priority and often processed months after the crime occurred. Meanwhile, the habitual offender continues to offend, victimizing more citizens. Or, if he is apprehended for one crime, the police are unable to link him to the other crimes he likely committed. Rapid DNA, on the other hand, provides an efficient means to catch habitual offenders much earlier in their crime spree, preventing needless victimization of law-abiding citizens.

Another important aspect of using Rapid DNA is the ability to eliminate or exonerate innocent suspects early in the investigative stage. This prevents undue stress and hardship to the suspect while at the same time saving the investigative agency manpower and other resources. Many crimes have multiple suspects with only one true perpetrator. Eyewitness identification is notoriously unreliable, and DNA results can take months for a report including or excluding a suspect to come back. During this time an innocent person may have a cloud of suspicion hanging over his/her head. Even worse, that person may be incarcerated while the police and prosecutors wait for the results.

Most importantly DNA evidence is nonbiased. In cases where biological evidence is probative the use of a rapid DNA test can save the police months of fruitless investigation and free the suspect from the cloud of suspicion or incarceration as the investigation grinds on and the police wait for a state lab to process their evidence. If a suspect will simply volunteer a buccal swab, or, if the police have probable cause to obtain a search warrant, the police can compare DNA to the biological evidence recovered from the crime to exclude or include the person who left the evidence at the scene. In as little as 90 minutes an innocent person can be freed of suspicion or the true perpetrator identified with strong evidence of guilt.

Expand crime scene DNA collection- We collect fingerprints at property crimes – why not DNA?

Since the widespread adoption of the Automatic Fingerprint Identification System (AFIS) in the late 1980's and early 1990's, departments have expanded the list of scenes they process for fingerprints from violent crimes to include property crimes. The AFIS system allowed departments to expand the type of individuals trained to process scenes. In addition to the dedicated crime scene technicians, other officers, including beat officers, are now being taught to process property crime scenes. Some agencies have expanded their property crime scene training to include DNA evidence collection.

The New Castle Police Department in Delaware, for example, has trained some of its officers as "Property Crime Specialists." These officers were originally trained to process property crimes for fingerprints, but their role has now been expanded to include processing the scene for DNA. The DNA they recover from the scene is submitted for processing using Rapid DNA technology, and entered in the Department's database. Officers are trained to look for blood or other bodily fluids and objects that might yield DNA, such as cigarette butts, which are one of the most frequently submitted items. The New Castle PD has found, like many agencies, that adding DNA collection to the Specialists' repertoire isn't difficult. In fact, the collection of DNA samples from a crime scene is easier than processing a scene for latent fingerprints.

Departments without a Rapid DNA system have to send the DNA collected from the crime scene to their state or local crime lab to have it processed. Samples from property crimes

are usually queued behind violent crimes, and it can take months to get results—months when offenders are at liberty to continue offending. Recent advances in technology allow departments to process their own DNA evidence. This includes both evidentiary samples recovered from the crime scene as well as identification samples obtained from suspects and arrestees. The department can obtain a profile in about 90 minutes and run a comparison against the database in another 2 minutes. That's only 92 minutes to solve a crime, a series of crimes, or to rule a suspect out.

Law enforcement leaders have a responsibility to keep their communities safe, to not only arrest criminals but to prevent crime whenever possible. We have a duty to advocate for the equipment, policies, and legislation that increase public safety. Training officers to process crime scenes for DNA in addition to fingerprints, combined with Rapid DNA technology and a local DNA database for comparison to arrestee DNA profiles, will take serial offenders off the street sooner and reduce the number of citizens who become crime victims.

While protecting the public is our first priority, we also must serve as good stewards of public resources. To that end, it should be noted that this combination of policy and technology can save money. The return on investment (ROI) realized by quickly eliminating suspects, obtaining guilty pleas rather than going through the cost of a trial, and using Rapid DNA technology to triage samples prior to sending them to a lab for analysis will significantly reduce the actual cost of the system.

Finally, it is important to remember that DNA has the power to exonerate as well as to convict. People suspected of committing a crime can be quickly exonerated and, if they are in custody, released. This can reduce litigation costs and demonstrate to the courts, as well as the public, that the department is serious about finding the truth and not just closing a case with an arrest.

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