Today, many investigators hear the words, “You have a DNA match.” Old, cold, and forgotten cases and their victims have received new life through DNA technology. Now, microscopic pieces of evidence can unravel unsolved mysteries in crime. How investigators respond to and use this technology to identify, apprehend, and prosecute suspects will measure the success of DNA analysis.

For over 6 years, the Phoenix, Arizona, Police Department has designated specific investigators to identify unsolved cases, as well as those with no known suspects. They locate the potential evidence associated with the cases and, in partnership with crime lab personnel, test it. Since 2000, the department’s cold case sex and homicide teams have reviewed over 2,000 cold cases, testing hundreds of pieces of forensic evidence for DNA potential. This process has yielded greater results than anticipated.

From August 2004 through August 2005, the Phoenix Police Department recorded over 100 DNA matches on previously unsolved sexual assault
and homicide cases. Several dozens of additional matches to unsolved crimes, ranging from burglaries, auto thefts, and robberies, also have occurred.

So, what happens to these DNA hits? An informal poll revealed a range of answers concerning how a DNA match is resolved. Some departments simply hand the match to the next available detective, and the case gets treated the same as the rest. Others designate cold case teams that develop a protocol, as well as an expertise, and pursue these matches as a priority, not just when time allows. With more labs processing thousands of pieces of evidence, agencies should identify experienced, knowledgeable investigators and use them specifically for cold cases. Obviously, the amount of resources, personnel, and caseloads significantly influences who resolves these cases and how they do so.

The President’s DNA initiative was one of the first nationwide steps to give law enforcement agencies the resources to combat violent and other crimes by using forensic evidence. Part of the initiative earmarked millions of dollars that allowed federal, state, and local agencies to research, identify, and examine thousands of pieces of evidence from unsolved cases. The National Institute of Justice sponsored and offered grants for law enforcement departments and laboratories to use DNA technology in high-volume crimes (burglary and auto theft).

DNA is a growing and expanding crime-fighting tool. What should investigators know and do when they receive these DNA matches?

The Basics

Cold case investigators in the Phoenix Police Department quickly realized that a DNA match essentially starts a new case. If a match is made to a convicted offender, detectives begin a comprehensive background on the suspect. Where is he currently located? Is he in custody? Can he be placed in the time and at the location of the crime? Is a time line needed? These questions require quick answers to apprehend the suspect as law enforcement’s duty is to protect the public and prevent crime. Such research on offenders is labor-intensive and often consumes valuable investigative time. Detectives with other case responsibilities may lower this task on their priority list or not be able to address it at all. Removing an offender from the streets is the best proactive crime prevention tool. Therefore, departments should consider developing a specific team to address cold case DNA matches.

Case-to-Offender Matches

Although it may seem that an investigator can make an arrest based only on a DNA match, this may not be the most prudent decision. In sexual assault cases, for instance, the question may not be who the offender was but, rather, if investigators can show that the sex was nonconsensual. Most
sex offenders, including serial rapists, use consent as their first defense. When detectives receive a DNA match, does enough documentation (e.g., injury, witnesses) exist in the original report to help counter the consent defense? In most cases, investigators will have to contact the victims. In doing so, they should carefully consider their approach because resurrecting these cases may have emotional consequences for victims and their families, ultimately affecting the potential for a successful prosecution.

After identifying the offender, investigators should prepare for all possible defenses, although a thorough background check may alleviate many common ones the suspect may employ. Investigators should review an offender’s criminal history for any previous police contacts to help develop an interview strategy for the case.4

The Confirmation Sample

When investigators discover the suspect’s current location, they should interview him and obtain a confirmation DNA sample. CODIS (Combined DNA Index System) regulations recommend that case investigators obtain a second DNA sample from the identified offender. This ensures the integrity and confirms the validity of the original DNA match.5 When the first sample is taken from a convicted offender, others may have theirs taken at the same time as well. The samples could inadvertently be switched or labeled wrong. When investigators request the second sample, they should not obtain a blood standard. Transporting human blood is a biohazard that causes undue stress on investigators and, if they use public transportation, other passengers as well. Instead, they should opt for a buccal swab.

 Obtaining the confirmation sample has proven only a minor obstacle at times. Search warrants and court orders based on the initial CODIS match usually are the standard for this part of the investigation. Investigators can save considerable time and effort by contacting the jurisdiction where the suspect is in custody because officers in that area have extensive knowledge of local laws and procedures. If the named suspect is not in custody and his location is not confirmed, investigators should obtain a warrant after presenting the case to a prosecutor. This ensures that if the suspect has law enforcement contact, he more than likely will be arrested, and the investigator will be notified. Further, investigators should be aware of statute-of-limitation issues in their jurisdictions.

After obtaining a second sample (and a confession), investigators should talk to the victim and the victim’s family, providing assistance from a victim advocate during this part of the investigation. In many cases, particularly sexual assaults, having the victim emotionally available for court can prove the difference between conviction and freedom. During this time, investigators should clarify any issues in anticipation of a defense the suspect may produce.

Case-to-Case Matches

Case-to-case matches create different issues for the cold case detective. Generally, these matches involve multiple law enforcement agencies. Investigators should share all information with everyone involved because it may prove critical in solving a cold case. Agencies that have worked serial cases across jurisdictional boundaries immediately realize that looking at factors other than the DNA in each case proves fruitful in
yielding a commonality that potentially may identify a suspect. Investigators should analyze a broader field of information that possibly will link suspects and cases with or without DNA. They should analyze all crimes in the geographical area, realizing that some suspects commit other types of offenses, and evaluate the type of attacks (e.g., indoors, outdoors, in a car) and victims (e.g., old, young, high- or low-risk). Further, investigators should determine whether parolees, probationers, or registered sex offenders live or work near the area of attacks.

Many departments have partnered with prosecution teams and, using the unknown DNA profile match, obtain a “John Doe” warrant. Investigators should discuss the feasibility of this tactic with their local prosecutors.

**Trial Preparation**

All of the evidence, including confessions, statements, and DNA is useless if investigators cannot use it in court. In many jurisdictions, cold case prosecutors are specifically designated and trained in these types of trials. From the beginning, investigators should thoroughly document every detail and organize it appropriately. Additionally, investigators’ legal teams can help prevent damage at all stages of the cold case investigation.

**Conclusion**

DNA technology has given new hope to those responsible for fighting crime and solving cases. The law enforcement community needs and requires the full support of citizens and local, state, and federal agencies to help overcome the various resource issues that stand between potential and actual success of any DNA initiative. Although each agency faces the reality of limited resources, the President’s DNA initiative has given the jump start needed to address both violent crime and criminals in society.

Now, agencies face the question of how to respond. Should they continue to work DNA cases when they can? Or, should they commit to using this crime-solving tool to its fullest potential? Future funding for DNA will focus on helping law enforcement after the match. Police departments must send a message to criminals, victims, and citizens that they will use all of their available resources and technology to continue pursuing these violent offenders.

**Endnotes**

1 The author conducted an informal poll of investigative units in large, urban police departments in the United States.

2 For more information about this initiative, visit http://www.dna.gov.

3 The authors employ masculine pronouns throughout the article for illustrative purposes.


5 [http://www.fbi.gov/hq/lab/codis/index1.htm](http://www.fbi.gov/hq/lab/codis/index1.htm)