

Postconviction DNA Testing: Report on the Act Relating to DNA Testing of Evidence

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Washington State Office of Public Defense

Postconviction DNA Testing: Report on the Act Relating to DNA Testing of Evidence

WASHINGTON STATE OFFICE OF PUBLIC DEFENSE

ADVISORY COMMITTEE MEMBERS

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Representative Kathy Lambert
Ms. Mary McQueen
Representative Ruth Kagi
Mr. Andy Pascua
Ms. Catherine Smith
Judge Philip J. Thompson

**Office of Public Defense
Joanne I. Moore, Director
Chad Dold, Deputy Director
925 Plum Street
Building 4, Third Floor
PO Box 40957
Olympia, WA 98504-0957
Telephone: (360) 956-2106
FAX: (360) 956-2112
E-Mail: opd@opd.wa.gov
Website: www.opd.wa.gov**

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EXECUTIVE SUMMARY

DNA Postconviction Testing: Report on the Act Relating to DNA Testing of Evidence

During the past fifteen years, DNA evidence has become an important technique for proving the innocence of persons wrongfully convicted of crimes. In order to provide a mechanism for inmates who claim innocence to obtain state-funded DNA testing if they meet certain evidentiary thresholds, the Legislature passed the Act Relating to DNA Testing of Evidence in 2000 and amended it in 2001. Under the Act, all incarcerated persons convicted of felonies who assert they are innocent are eligible to request postconviction DNA testing. The Act also requires each county to retain all biological evidence in its possession until 2005.

The Washington State Office of Public Defense was directed to report on the Act's implementation in the legislation. Through surveying the county prosecuting attorneys, defense attorneys, and contract prison attorneys, conducting some 40 interviews, and contracting with Innocence Project Northwest to conduct a survey of all county evidence facilities, the agency found:

Three postconviction test requests have been approved. Prosecutors in Pierce, Kitsap, and Snohomish Counties have approved inmates' testing requests, and are proceeding to forward the necessary materials to the Washington State Crime Patrol Lab for testing.

Two test requests have been denied. Prosecutors in King and Kitsap Counties have denied two postconviction testing requests. No test request denial appeals have been received by the Attorney General.

A number of postconviction test requests are pending or possible.

Prosecutors in two counties are considering requests, and various inmate's attorneys are considering submitting requests.

It is unlikely that more than 50 requests will be submitted under the Act.

Washington's experience has been similar to New York's and Illinois'. Inmates in those states have filed 17 post-conviction testing requests per year or less under similar statutes.

DNA evidence was not available for past trials of a number of Washington inmates.

It is estimated that up to 267 inmates convicted of murder, manslaughter, or sex crimes, the felonies for which DNA evidence is most often relevant, have been convicted in cases "where DNA evidence was not admitted because the court ruled DNA testing did not meet acceptable scientific standards or where DNA testing technology was not sufficiently developed to test the DNA evidence in the case." This estimate pertains to total convictions, not claims of innocence or test requests.

The effectiveness of the Act depends on careful retention of biological evidence.

A survey of county evidence facilities shows that some have not adopted procedures for retention of biological crime scene evidence or are uncertain as to what is required.

Under the Act, more postconviction DNA tests are being conducted.

The Act is increasing inmates' ability to obtain postconviction DNA testing. In fact, test requests denied by prosecutors prior to the adoption of the Act have subsequently been approved by them.

Recommendations:

- Information about the Act should be posted on prison bulletin boards and other established areas where legal updates are disseminated to inmates.
- Comprehensive training in retaining biological evidence under the Act should be provided to the county evidence facilities.
- When prosecutors deny inmates' testing requests under the Act, they should advise them in writing of their right to appeal to the Attorney General.
- The number of postconviction DNA tests requested under the Act should continue to be tracked.
- The Legislature should review the Act's implementation in 2004, the year before its scheduled sunset. If some or all of the procedures established under the Act remain critical, and DNA technologies are continuing to evolve, the Legislature should consider extending its provisions.

INTRODUCTION

During the past fifteen years, DNA identification has become an important technique for proving the innocence of persons wrongfully convicted of crimes. In 2000, the Legislature passed the Act Relating to DNA Testing of Evidence (located at Appendix 1) to allow inmates sentenced to death or to life without the possibility of parole to submit requests for DNA testing at state expense. If the prosecutor concludes that evidentiary thresholds have been met and it is more probable than not that the DNA evidence will demonstrate the person's innocence, the prosecutor authorizes DNA testing of the evidence, to be performed by the Washington State Patrol Crime Lab. In 2001, the Legislature passed amendments extending the Act to inmates convicted of any felony and requiring law enforcement agencies to retain all biological evidence until January 1, 2005.

Part of the Act directs the Washington State Office of Public Defense (agency) to report on questions about its implementation since July 1, 2000 and about estimated future DNA testing requests. In response to the legislative directive, this report describes the development and use of DNA testing, examines testing requests under the Act since July 1, 2000, estimates the number of trial cases in which DNA was not utilized for certain technical reasons, and analyzes county procedures for the retention of biological evidence.

Data Collection

In order to obtain information about DNA evidence use and DNA testing under the Act, the agency sent surveys to each of the 39 county prosecutors asking questions on the use of DNA evidence in criminal cases in their counties and their implementation of the Act. Similar surveys were sent to public defenders and other attorneys active in felony defense work, and to each of the attorneys who contract with the Department of Corrections to provide legal services to inmates within the prisons. (Copies of the surveys are located at Appendix 2.) Survey data had to be relied on for data collection because requests for testing under the Act are conducted without court involvement, and consequently the standard judicial system databases do not contain information about them.

Thirty-five of the thirty-nine county prosecutors (90%) responded to the survey, as did twenty-seven of the private attorneys and public defenders surveyed. All of the Department of Corrections contract attorneys answered surveys in writing or by telephone.

Interviews were conducted of some forty individuals, including prosecutors, defense attorneys, attorneys working in the prisons, and state officials. Other information was obtained through in-depth interviews with individuals at the Washington State Patrol Crime Lab, the Department of Corrections, the Sentencing Guidelines Commission, and Innocence Project Northwest, a program affiliated with the University of Washington that offers free legal assistance to inmates seeking to pursue wrongful conviction claims.

Due to the importance of the Act's requirement that all biological evidence secured in connection with a criminal case must be retained, the agency contracted with Innocence Project Northwest to survey the 39 counties' evidence facilities and prepare a report (located at Appendix 3).

DEVELOPMENT OF DNA TESTING TECHNOLOGY

The evolution of DNA technology from the laboratory to forensic science, a science applied to legal or courtroom purposes, has involved both the scientific and legal communities. On the scientific side, DNA testing technology developed from relative obscurity twenty years ago to front-page news with the announcement that the entire human genome had been mapped. The first forensic or legal application of DNA testing occurred in 1986. Since then, DNA technology has continued to rapidly evolve. In 1990, the Washington State Patrol Crime Lab began DNA casework, and by 2001, the Lab's utilization of DNA had developed to the point of being able to type samples from over 30,000 convicted felons for a national crime investigation database.

DNA technology focuses on unique properties of an individual's genetic code. Its' purpose is to determine if there is a match between these unique characteristics in samples from a known source (i.e. the suspect) and the crime scene evidence being tested. Although much more powerful, DNA testing serves the same function as fingerprinting or eyewitness identification in the criminal justice system; it includes or excludes suspects from the list of possible perpetrators of a specific crime. (A Glossary of Terms is located at Appendix 4.)

Restriction Fragment Length Polymorphism (RFLP), a technology used in genetics since the mid-1970's, was the first DNA technology to be applied to forensic identification. Genetic research had located certain DNA areas, or loci, that varied in length from individual to individual; RFLP examines those differences. In 1986, this DNA technology was used in England to prove that a mentally challenged suspect was not guilty of a murder, even though he had confessed. Blood samples drawn from other inhabitants of the area later identified and led to the conviction of Colin Pitchfork, the actual perpetrator of the crime. The same year, a relatively new DNA technology, Polymerase Chain Reaction (PCR) testing, was similarly employed in a criminal case.

Newer DNA identification systems have continued to develop. In the late 1980s, PCR techniques gave scientists the ability to rapidly test small degraded samples of blood or other biological fluids - as few as 50 to 100 cells - and took far less time to process than the earlier RFLP testing techniques. With PCR techniques, scientists multiply a sample millions of times, making possible analysis of smaller units of DNA and more accurate results. The first PCR test systems looked at well-studied areas on the chromosomes, the DQ-alpha and D1S80. By 1988 commercial kits were available that could be analyzed by studying the color changes caused by placing the amplified sample on the specially treated spots on a test card.

Short Tandem Repeats (STRs), smaller segments of DNA that vary among individuals, were adopted by the FBI as the national standard for forensic identification in the early 1990's. These tests look at 13 different areas of DNA and can produce results in as little as eight hours with automated processing.

Currently, the use of two new DNA testing methods has not yet been considered by the Washington appellate courts. Mitochondrial DNA (mtDNA), still under development, examines maternally inherited DNA and can be used on degraded samples such as bones and teeth. An even newer technique, Single Nucleotide Polymorphisms (SNPs) involves examining specific areas of DNA that vary among individuals by a single molecule. Scientists are studying the forensic applications of SNPs, which are expected to be able to match crime scene and suspect

DNA at hundreds of different points, potentially allowing more accurate matches and avoiding the need for probability and statistics evidence.

National Forensic Application of DNA Evidence

In the 1990s, as DNA identification moved from the lab to the criminal courts nationally, the adversary process quickly highlighted a series of issues that had to be resolved before the evidence could be admitted on a regular basis. To address these issues, the National Research Council's Committee on DNA Technology in Forensic Sciences published a study focusing on questions about the reliability of the technology, the methodological standards employed, and the interpretation of the population statistics that make the science meaningful.¹ Their first report in 1992 resolved many of the technological issues, and in an update four years later the remaining issues related to the statistical interpretation of testing results were settled.² These reports, which were generated following assessment of the technology and its use, demonstrated the widespread level of general acceptance of DNA as a forensic tool at the time they were written.

In June 1996, the National Institute of Justice published a research report entitled *Convicted by Juries, Exonerated by Science: Case Studies in the Use of DNA Evidence to Establish Innocence After Trial*.³ This report documents the stories of 28 men convicted of crimes by juries, whose innocence was proven through postconviction DNA testing. These innocent men had spent a total of 196 years in prison, at an average of 7 years per individual. In many of these cases, DNA testing was not possible at the time they were convicted. The report chronicled the significance of advances in DNA technology to criminal justice. Former Attorney General Janet Reno, in her introduction to the report, summarized the dual importance of the evolving capabilities of DNA testing:

The development of DNA technology furthers the search for truth by helping police and prosecutors in the fight against violent crime. Through the use of DNA evidence, prosecutors are often able to conclusively establish the guilt of a defendant. Moreover, as some of the commentaries suggest, DNA evidence - like fingerprint evidence - offers prosecutors important new tools for the identification and apprehension of some of the most violent perpetrators, particularly in cases of sexual assault.

At the same time, DNA aids the search for truth by exonerating the innocent. The criminal justice system is not infallible, and this report documents cases in which the search for truth took a tortuous path. With the exception of one young man of limited mental capacity, who pleaded guilty, the individuals whose stories are told in the report were convicted after jury trials and were sentenced to long prison terms. They successfully challenged their convictions, using DNA tests on existing evidence.⁴

Thus, forensic DNA testing advances two primary objectives of the justice system: accurately identifying the perpetrators of crimes before prosecution or conviction, and testing DNA in later years using newly developed DNA technologies furthers another primary objective of the justice system - freeing innocent persons from prison.

Having demonstrated the importance of DNA testing in the criminal justice system, the 1996 National Institute of Justice report also identified significant unresolved problems. Many states had enacted procedural barriers or time limits that prevented new DNA test evidence from being

presented to a court. Some of the 28 men whose DNA test results were exculpatory were released from prison only on the agreement of the prosecutor or as a result of executive pardons⁵. Since DNA testing was often not available or was prohibitively expensive, many of the 28 prisoners who eventually proved their innocence underwent hardships and long delays in obtaining new DNA tests.

DEVELOPMENT OF FORENSIC DNA TESTING IN WASHINGTON

DNA Evidence Declared to be Admissible in 1993

The development of DNA test capability for criminal case evidence purposes has had a substantial impact on the Washington courts. Initially, there were numerous, lengthy and costly hearings held solely on the question of whether the science met the legal guidelines of admissibility. Well before the Act was passed in 2000, these issues had been resolved and DNA testing to prove identity was accepted as a forensic science in Washington.

Before admitting 'novel' scientific evidence, Washington courts require the proponent of such evidence to demonstrate in a contested hearing, called a Frye hearing,⁶ that the theory behind the technology has been "generally accepted in the scientific community in which it belongs." The rules of evidence also require that the witness testifying as to the reliability of the DNA test evidence being offered must be an expert by knowledge, skill, experience, training or education, and that the proffered evidence must assist the jury in making its decision.⁷ State v. Cauthron, 120 Wn.2d 879 (1993) was the first case to raise DNA admissibility issues in the Washington State Supreme Court. Richard Cauthron was arrested in October 1988 and charged with committing a series of rapes in Everett. The prosecutor submitted semen samples from five of the crimes to a private DNA testing laboratory for analysis, which reported that the samples matched Cauthron's DNA. The trial court decided that the testimony concerning the testing and its statistical and probability significance was admissible after an extensive Frye hearing. On appeal the Supreme Court held that "the scientific principle and the restricted fragment length polymorphism (RFLP) method of DNA typing are universally accepted, and therefore admissible" but criticized the testimony offered in support of the statistical and probability evidence, holding that a statistics expert must testify to establish these elements to validate the asserted 'match' of a defendant's DNA sample.⁸ The case was reversed and sent back to the trial court for a new trial (which resulted in Cauthron's conviction).

Statistical and probability testimony was sometimes controversial in the early 1990s when early DNA forensic testing did not result in close matches unless a relatively large sample of crime scene evidence was available for testing. For example, in State v. Gentry, 125 Wn.2d 570 (1995), a death penalty case involving a 1991 trial, state DNA experts testified during the trial that 8% of the Caucasian and African American population had DNA matching PCR DNA results of tests taken of bloodstains on both the victim's and defendants' clothing. By the mid-1990s, technology and statistical and probability significance science had developed sufficiently to be able to analyze much closer genetic matches between crime scene evidence and a defendant's sample. In State v. Monroe, #39928-4-1,⁹ a 1995 homicide, an expert criminalist testified that DNA testing resulted in a 1 in 650 match with the crime scene. In 1996, the Supreme Court determined in State v. Copeland, 130 Wn.2d 244, that scientific disputes regarding statistical and probability issues had generally been resolved.¹⁰

Presently, although DNA match ratios still vary somewhat from case to case, they are often determined with exactitude by statistical and probability experts. For example, in a 2001 appellate case, State v. Clark, 143 Wn.2d 731, the statistical and probability expert testified that one test of the defendants DNA showed a match of 1 in 6 quadrillion.

Law Enforcement Use of DNA Testing

In December 2001, Gary Ridgway was charged with aggravated murder in four of the Green River serial-killings which occurred during the 1980's. Ridgway had been listed as one of law enforcement's prime suspects in the 1980's, based on then available evidence, but there was insufficient evidence connecting him to the crime for successful prosecution. In 2001, a saliva sample taken from Mr. Ridgway in 1988 was matched to crime scene samples taken in three of the homicides by the Washington State Patrol Crime Lab.

Law enforcement uses DNA testing technology to identify suspects and solve crimes in a number of ways. Ridgway's arrest based on updated DNA testing is an example of pre-charge law enforcement DNA use. Case investigations include information obtained through a variety of techniques including witness interviews, crime scene reconstructions, background research, and various types of forensic testing including DNA work. During investigations, DNA samples from crime scene evidence and from suspects are tested, in order to identify whether a suspect's DNA sample matches the crime scene sample and exclude other suspects whose DNA samples do not match.

Recent cases demonstrate law enforcement's extensive use of DNA testing as an investigative tool to establish identification before making an arrest. For example, in *State v. Gore*, 143 Wn.2d 288 (2001), a search warrant based on probable cause was used by law enforcement to extract saliva and blood samples for DNA testing from Paul Gore, a rape suspect. He was arrested, charged, tried, and convicted after the Washington State Patrol Crime Lab performed DNA testing which a state expert testified established a match with only a 1 in 90 million or 1 in 100 million chance that someone other than Mr. Gore left the DNA evidence at the crime scene. Prosecutors and law enforcement commonly initiate DNA testing of defendants after they have been arrested as well.

DNA testing is also used to identify possible perpetrators in "no-suspect" cases in which investigative tools have failed to produce suspects for further investigation. The Combined DNA Identification System (CODIS) database is a nationwide program spearheaded by the Federal Bureau of Investigation that blends forensic science and computer technology into a centralized tool for solving violent crimes. This system enables federal, state and local crime labs to exchange and compare DNA profiles electronically, thereby linking crimes to each other and to convicted offenders. The FBI reports that there are over 25,000 forensic profiles (from crime scene evidence) and almost 700,000 offender profiles in the system nationally. Federal grants, including a \$1.5 million grant to Washington State, have funded the updating of state crime labs to advanced DNA testing technology standards (13 core STR loci) required by CODIS and processing of a large backlog of offender blood samples for the national database.

All persons convicted of violent or sex offenses in Washington must submit a blood sample for DNA analysis under RCW 43.43.754. To date, approximately 32,000 Washington samples have been tested and submitted to CODIS. As part of its implementation of CODIS under the federal grant, Washington was required to perform some 270 'no suspect' tests, comparing new DNA samples to crime scene evidence from unsolved crimes. Between May and September 2001, the Washington State Patrol Crime Lab matched DNA test results with 16 previously unsolved homicide and sexual assault cases. This effort expanded to a recruitment of unsolved 'cold case' samples from law enforcement in the various counties so they could be tested using the Washington State Crime Lab's updated PCR and STR methods. Gary Ridgway's saliva sample was tested and matched during this effort.

Defense DNA Practices at the Trial Level

The defense seldom introduces DNA evidence at trial. Because the state has the burden of proving identity beyond a reasonable doubt, when DNA testing exonerates the defendant, the prosecutor usually decides not to file charges or, if charges were previously filed, dismisses them.¹¹ Inconclusive results may motivate prosecutors to offer to reduce existing charges or facilitate other negotiated plea agreements.

As described above, during the mid-1990s, defense attorneys made a number of challenges to general DNA testing methods and statistical and probability techniques as they developed. Presently, defense challenges to DNA are most often based on Evidence Rule 702, which requires the prosecutor to prove that law enforcement's DNA testing and processing procedures used in a particular case were reliable. As a defense attorney recently stated in a Seattle Times article, DNA is "a tool just like fingerprints are, and ballistics are - but DNA can be mishandled, misidentified, screwed up."¹² Evidence Rule 702 allows the court to exclude the DNA expert testimony altogether, but in general, trial judges rule that questions about the testing process used in a particular case should be submitted to the jury, allowing them to consider all aspects of the DNA evidence, along with the other evidence in the case, in making their decision.

The OJ Simpson case was one example of this defense approach. Defense counsel focused their attack on the reliability of the testimony and test results to the jury, rather than arguing to the judge that the jury should not hear the evidence. In State v. Barfield, a recent three-strikes trial in King County, defense attorneys pursued this tactic to contest DNA testing performed by the Washington State Patrol Crime Lab. As a result, a senior Washington State Patrol Crime Lab DNA expert resigned from his position shortly before an internal investigation into his failure to include all the results of tests he performed in a report, and his attempts to cover up that failure. (The state remedied the reliability issues in State v. Barfield by obtaining a private lab to retest the evidence and testify at trial; the defendant was convicted.)¹³

In cases involving serious charges, defense attorneys often request court appointment of defense DNA experts. These experts test the DNA evidence independently or provide another interpretation of the DNA testing methods used and the conclusions drawn by law enforcement experts. For example, King County Superior Court recently ordered nearly \$300,000 for DNA testing and experts for Green River defendant Gary Ridgway's defense.¹⁴

The Washington Constitution guarantees criminal defendants the right to a 'speedy trial', which, by Washington State Court Rule, has been established as being within 60 days if they are in detention, or 90 days if they are on pre-trial release.¹⁵ Some types of DNA testing, especially the earlier test methods, can take weeks or even months to complete. Many criminal defendants have argued that delays required to complete testing should not be allowed. In a number of older cases, the defendant's enforcement of his or her right to a speedy trial when the state has not timely completed the tests has resulted in incomplete test results being presented to the jury.¹⁶ In some cases, courts have ordered considerable case delays so that DNA testing can be completed.¹⁷

Over the years, some convicted defendants have argued to the appellate courts that their convictions should be overturned because their trial attorneys provided ineffective assistance of counsel. These appellate cases include defendant's assertions that counsel's failure to wait for test results constituted ineffective assistance of counsel, such as State v. Cook, #32146-3-I,

where the defendant asserted his attorney rushed the case to trial, preventing completion of RFLP DNA testing. In other cases, defendants have argued that their attorneys failed to seek DNA testing, such as State v. Falkner, #36692-1-I, a conviction reversed by the Court of Appeals on other grounds.

Legal Procedures for Requesting Court Consideration of DNA Test Results after Trial

Legal procedures available for contesting a wrongful conviction are limited. One of the fundamental principles of our legal system is that litigation should resolve issues once and for all, and that judgments should be final. If a notice of appeal is filed within 30 days of a conviction, claims of the trial court's error are reviewed by the appellate court, which goes over the entire record of the proceeding and the decisions made by the trial judge. In addition to the right to an appeal, a convicted person may ask a court to consider evidence not introduced at trial, generally on the ground that the evidence was unknown at that time. These challenges are called collateral attacks. In 1989, the legislature enacted RCW 10.73.090 et. seq., imposing time and procedural restrictions on an inmate's ability to initiate collateral attacks.

The common law right of individuals to challenge their incarceration is incorporated into both the Washington and United States constitutions¹⁸. Habeas corpus (generally, illegal imprisonment) proceedings are used to test whether a prisoner has been accorded due process. The proceeding commences when the inmate files a petition with the court having jurisdiction. If the court initially concludes that the petition may be meritorious, it issues a writ, or order, directing the detaining authority to appear and demonstrate that the detention is lawful.¹⁹ Washington court rules set forth several other procedures to allow individuals to pursue various claims of injustice in the trial court.²⁰

Defendants who wish to ask a trial or appellate court to overturn guilty pleas previously entered by them may use some of these procedures. In general, guilty pleas by defendants, which the trial court must rule are entered 'intelligently and voluntarily', are difficult to overturn later. However, in limited circumstances, courts will do so. Even though it did not involve a guilty plea, an example of the type of case in which a defendant might falsely admit guilt is the first case in which DNA testing was used, resulting in the exoneration of the mentally disabled English defendant who had made a false murder confession in 1986.

In addition to trial rules allowing the defendant to request to withdraw his or her guilty plea, inmates may attempt to overturn these pleas at the appeal level. Personal restraint petition procedures under Rules of Appellate Procedure 16.4 may be best suited for these and other DNA innocence claims in that they allow appellate courts to consider claims that "(m)aterial facts exist which have not been previously presented and heard, which in the interest of justice require vacation of the conviction, sentence, or other order entered in a criminal proceeding or civil proceeding instituted by the state or local government."

A one-year time limit imposed on personal restraint petitions also creates a hurdle for many collateral attacks. In postconviction DNA cases, the developments in technology occurred many years after the convictions. This problem is not insurmountable, however, because there is a limited exception to the one-year time limit in cases with "(n)ewly discovered evidence, if the defendant acted with reasonable diligence in discovering the evidence and filing the petition or motion."

Prior to the adoption of the Act Relating to DNA Testing of Evidence when there was no specific procedure for seeking new DNA tests, defense attorneys or unrepresented inmates who wished to challenge their convictions sometimes informally requested county prosecutors to provide DNA testing. Typically, these requests were based on developments in DNA technology. For example, a few years ago, counsel for an inmate who had been sentenced in Spokane County requested testing of crime scene evidence on the ground that the original testing was inaccurate and that he was innocent. The prosecutor agreed to have testing performed. A private lab was used and the results came back with an even higher match, however - 99.999% - of the defendant to crime scene evidence. In another case, the Clallam County prosecuting attorney's office received an informal written request in 1999 for DNA testing in a burglary case. (This informal request was turned down by the prosecutor on grounds that the charges did not involve physical assault, the defendant had entered a guilty plea, and DNA had not been involved in any part of the case.)

Even though these two requests were made, it is not known how many inmates without attorneys were not able to pursue testing formally or informally before the Act was passed. By providing a vehicle that does not require previously filed court actions, and authorizing testing at no cost to the inmate if it is approved, the Act serves to institute the availability of DNA testing for indigent inmates asserting their innocence.

Presently, inmates who seek DNA testing outside of the Act are still eligible to use other legal procedures that existed before it was passed. The Act provides that "Nothing in this act shall be construed to limit any rights offenders might otherwise have to court access under any other statutory or constitutional provision." If, for example, an inmate wishes to challenge the way testing or testimony was conducted at the trial level by the Washington State Patrol Crime Lab, the authorized facility for conducting DNA testing under the Act, requesting testing informally or formally through pre-Act procedures may be necessary.

FORENSIC DNA EVIDENCE TIMELINE

Year	Development
1989	First individual in the State of Washington convicted by a jury primarily on the basis of DNA identification. (<u>State v. Cauthron</u>)
1990	Washington State Patrol Crime lab begins using RFLP technology to do DNA identification testing.
1992	National Research Council publishes <u>NRC I</u> demonstrating the general acceptance of the theory of DNA identification and RFLP analysis
1993	In <u>State v. Cauthron</u> , the Washington Supreme Court approves DNA identification theory and RFLP testing under the <u>Frye</u> test.
1994	RCW 43.43.754 requires all persons convicted of sex and violent offense to submit a blood sample for DNA identification analysis
1994	In <u>State v. Russell</u> , the Washington Supreme Court approves PCR testing at the DQ1A locus under the <u>Frye</u> test.
1994	Federal authorization of a national DNA database under FBI supervision (CODIS).
1996	National Research Council publishes <u>NRC II</u> demonstrating general acceptance of the statistical methodologies used to interpret DNA test results.
1996	National Institute of Justice publishes <u>Convicted by Juries</u> describing 28 cases where postconviction DNA testing proved innocence.
1996	In <u>State v. Copeland</u> , the Washington Supreme Court resolves remaining statistical issues, approving the product rule.
1998	Washington State Patrol Crime Lab begins applying STR analysis to the blood samples violent offenders are required to submit after sentencing.
1998	First introduction of mitochondrial DNA (mtDNA) test results in a trial court in the State of Washington.
1999 (approximately)	Scientific identification of single nucleotide polymorphisms (SNPs) as candidates for DNA forensic analysis.
2000	Washington State Patrol begins using STR technology in casework.
2001	Washington State Patrol begins STR analysis of forensic samples from unsolved cases; Gary Ridgway is arrested based on STR analysis.

ADOPTION OF THE ACT

The Act Relating to DNA Testing of Evidence establishes a procedure by which certain incarcerated individuals who claim to have been wrongly convicted can request DNA testing to prove their innocence. The request is directed to the prosecutor in the county where the conviction was entered. If the prosecutor approves the request, testing is performed.

The Act provides that the DNA evidence sought to be retested must still exist, must have either been “not admitted because the court ruled DNA testing did not meet acceptable scientific standards or DNA testing technology was not sufficiently developed to test the DNA evidence in the case,” and that the prosecutor shall review the request “based on the likelihood that the DNA evidence would demonstrate innocence on a more probable than not basis.” Prosecutorial denials may be appealed to the Attorney General.

In its original form, the Act applied to any “person in this state who has been sentenced to death or life imprisonment without possibility of release or parole and who has been denied postconviction DNA testing” and it was scheduled to sunset in 2002. In 2001, the Act was amended to include any person who was “convicted of a felony and is currently serving a term of imprisonment,” and its sunset date was moved back to 2004. At the same time a new section was added, requiring law enforcement and evidence personnel to keep “any biological material that has been secured in connection with a criminal case prior to the effective date of this Act” until January 1, 2005.

The Act specifically provides that no changes in existing law are intended. It merely establishes a procedure that permits testing, at the Washington State Patrol Crime Lab, at no expense to the inmate. If testing demonstrates actual innocence, the inmate may seek relief through one of the court procedures described above, submitting as evidence the retested DNA evidence.

Test Requests Pursuant to the Act

The Act directs the agency to report:

- (1) the number of postconviction DNA requests approved by the respective prosecutor;
- (2) the number of postconviction DNA test requests denied by the respective prosecutor and a summary of the basis for the denials;
- (3) the number of appeals for postconviction DNA testing approved by the attorney general’s office;
- (4) the number of appeals for postconviction DNA testing denied by the attorney general’s office and a summary of the basis for the denials; and
- (5) a summary of the results of the postconviction DNA tests conducted pursuant to RCW 10.73.170(2) and (3).

It has been a year and one-half since incarcerated individuals sentenced to death or to life without the possibility of parole became eligible to request DNA testing under the Act and several months since incarcerated individuals convicted of felonies became eligible to request DNA testing under amendments to the Act. During that time, several inmates have submitted DNA testing requests to prosecutors in various counties. Other DNA testing requests are in various stages of investigation. In addition, prosecutors have reopened some pre-Act inmate requests that were turned down before the Act established the procedure for requesting state-

funded testing. Information collected by the agency concerning testing requests submitted under the Act is set out below, as well as descriptions of known potential testing requests.

Requests Approved Under the Statute

Prosecutors have approved three requests for testing under the Act. In two of these cases, offers for testing have been extended to the inmates. In the third, the prosecutor previously offered postconviction DNA testing prior to the effective date of the Act, and is now proceeding under the Act.

An inmate challenged his 1990 Pierce County robbery, kidnapping and unlawful possession of a firearm convictions by sending a letter to the prosecutor through counsel. He requested DNA testing on the basis that his blood was not present on a hat found associated with the crime scene and that DNA technology advances now make an accurate blood test possible. The prosecutor initially denied the request. However, in light of the 2001 amendments, the prosecutor is now treating the request as though it had been made under the Act, and recently offered to submit the evidence to the Washington State Patrol Crime Lab.

The Kitsap County prosecutor's office recently wrote to an inmate convicted of rape and burglary in 1993 to advise him of his right to publicly-funded testing under the statute. Before his conviction, the inmate had sought DNA testing, but then changed his mind, preferring not to waive his right to a speedy trial. He filed a number of appeals and personal restraint petitions to challenge his convictions. In 1994, he unsuccessfully raised the lack of DNA testing as an issue in a personal restraint petition. During his third personal restraint petition, filed prior to the Act in the late 1990's, the prosecutor offered to "permit testing if he was willing to bear the cost and other conditions were satisfied." The inmate never responded to the offer. After adoption of the Act made state-funded testing available, the prosecutor took the initiative to advise him of his right to free DNA testing under the Act, and is awaiting his response.

Counsel for an inmate convicted of murder in Snohomish County in 1984 requested a DNA test of hairs found on the hands of a murder victim. Before the original trial, the FBI had apparently examined these hairs and they were admitted as exhibits at trial. A February 2001 DNA test request was first initiated by the inmate's attorney as a request for an agreed order to allow DNA testing, prior to amendment of the Act that broadened its scope to include all felonies. That request was approved, and an order transferring the exhibits to a private lab for testing was entered. Anticipated funding for this testing failed to materialize, and the inmate made a second request under the Act in August 2001. According to the prosecutor, the results of this testing could "indicate (a) perpetrator other than the defendant". The prosecutor has approved testing to be conducted by the crime lab after details regarding the chain of custody of evidence and a blood sample have been resolved.

Requests Denied Under the Statute

Two cases were identified in which formal requests for testing have been denied by county prosecutors. In a King County case, an unrepresented inmate who wrote a DNA test request letter without stating the basis for the new test request was denied. The denial was based on the prosecutor's understanding that the appellate process was not yet completed, the defendant had entered a guilty plea to the charges, and it was believed that he had admitted involvement.

An inmate's test request was also denied in a 1981 Kitsap County rape case where the perpetrator's identity was the sole issue at trial. After the inmate's attorney submitted a request for testing under the Act, the Sheriff's Office reported that due to the age of the case, all crime scene evidence had been destroyed. Although the exhibits admitted at the trial were still in the possession of the county clerk, the inmate's attorney conceded after reviewing the exhibit list that no preserved testable evidence remained in the county's custody.

Denials Appealed to the Attorney General

The Attorney General's Criminal Division reports that they have received no requests for postconviction DNA testing; therefore, there have been no appeals, approvals or denials.

Results of Testing

No instances were found of actual testing under the Act.

Other Potential Requests Under the Statute

Research revealed that there are a number of other cases that might result in testing under the statute. Two cases are classified as "pending" requests, in which the decision to test is under review; both are cases where the request, or the intent to make a request, is very recent. Other cases where postconviction DNA testing requests are "possible", once sufficient investigation has been completed, were also identified. Descriptions of these pending and possible requests follow.

Pending Requests

In November 2001 counsel for an inmate from Benton County submitted a request for DNA testing under the Act. The inmate, convicted and sentenced for a 1979 Benton County rape/murder, has consistently maintained that the sexual intercourse that occurred was consensual. The defendant maintains that if the swabs prepared during the autopsy can be located, DNA testing could support his claim, allowing him to challenge the underlying rape conviction or request a favorable parole decision. The prosecutor reports that efforts are being made to track down evidence for DNA testing.

The Franklin County prosecutor's office reports a recent verbal request for testing from counsel for an inmate convicted in a 1973 bombing case, and for which a formal written request is forthcoming. The prosecutor does not anticipate any reason to refuse testing and indicates that some of the crime scene evidence is still available in the clerk's vault.

Possible Requests

A number of possible requests are being considered by attorneys who represent inmates serving sentences in various prisons. One of the defense firms surveyed reports they have received a request for assistance from an inmate where DNA testing may not have been available at trial. However, because they "just recently received the case and are investigating", the decision to pursue testing has not yet been made.

The Department of Corrections contracts with seven attorneys to provide legal assistance to the 15,300 plus inmates in the institutions. They report varying experiences regarding requests for information or assistance concerning postconviction DNA testing. Only one actual request for assistance was reported under the statute. A second contract attorney was contacted by

three inmates for information, and two other contract attorneys mentioned between 15 and 20 similar contacts.

When asked about steps taken to advise inmates of the Act, several contractors felt there may be a general lack of awareness of the statute and its amendment within the prisons. Two contractors mentioned that they had brought up the topic during seminars offered to their clients, but that information has not been posted in the prison law library or elsewhere. However, one contractor stated in an interview that she has “very recently” received three initial requests for information but thus far had no further details.

Innocence Project Northwest, the University of Washington affiliated program offering legal assistance to inmates asserting their innocence, reports after reviewing their correspondence that they have received and preliminarily gathered information about up to twenty-three potential DNA testing requests. These are being further investigated by the program.²¹

ESTIMATES OF INMATES CONVICTED IN CASES WITHOUT DNA EVIDENCE

The Act directs the agency to provide “an estimate of the number of persons convicted of crimes where DNA evidence was not admitted because the court ruled DNA testing did not meet acceptable scientific standards or where DNA testing technology was not sufficiently developed to test the DNA evidence in the case.” Much of this data is not available on state databases or even in court files. Further, survey questions seeking information on these areas yielded little information beyond that set out above in the discussion of potential requests. Therefore, estimates have been developed based on Washington’s prison population and reported DNA requests (both prior to and under the Act), and are set forth below.²²

The Act defines individuals entitled to request postconviction DNA testing as any person convicted of a felony who is currently serving a term of imprisonment. As identification issues are most likely to arise in sexual assault and homicide cases²³, it is in these cases that DNA evidence is both likely to be collected and preserved, and to be useful in demonstrating actual innocence. In round numbers, there presently are a total of 5,225 inmates incarcerated for all murder, manslaughter or sex crime convictions.

Evidence Collection and Preservation Procedures

The availability of crime scene evidence is central to the success of a postconviction testing system. This is apparent in the appellate and trial cases and DNA requests discussed above. Consequently, the Act’s 2001 amendments establish that “(n)otwithstanding any other provision of law, any biological material that has been secured in connection with a criminal case prior to the effective date of this Act may not be destroyed before January 1, 2005.” An estimate of the number of cases where requests for postconviction DNA testing might be granted requires a description of past and present evidence collection and preservation practices.

To accomplish this task, Washington State OPD contracted with Innocence Project Northwest to conduct a survey of the various county evidence facilities in the state. Whether evidence will be available for postconviction testing depends on its storage. As evidenced by the county facility survey, evidence facility storage procedures vary widely across the state. Survey results are set out in Appendix 3.

Estimate of Cases in which Courts Ruled DNA Testing did not Meet Scientific Standards

In order to provide an estimate of the number of persons convicted of crimes where DNA evidence was not admitted because the court ruled DNA testing did not meet acceptable scientific standards, an appellate case search was conducted. Convictions in this category are most likely to have been entered between the late 1980s and 1993, the year the Cauthron case was decided by the Washington Supreme Court.

Appellate decisions involving three trials were found in which defendants were convicted at trials where DNA was ruled inadmissible by the court because testing did not meet scientific standards. Two 1993 King County cases fit into this category. These unrelated criminal cases were consolidated for a DNA evidence admissibility hearing in 1993. Testimony demonstrating

general acceptance of both DNA testing technology and statistics and probability analysis was presented at the contested hearing. In a ruling about the same time as the Cauthron decision, the trial court held that the statistical probability methods used by the Washington State Patrol Crime Lab to express the significance of the DNA evidence did not meet the Frye standard.

After these cases were sent back to the trial court, one defendant was tried and convicted on the basis of the remaining non-DNA evidence. He unsuccessfully appealed his conviction on a variety of grounds, not including DNA. In the other case, the prosecutor decided that there was insufficient remaining non-DNA evidence to convict; the state dismissed the charges and appealed the ruling excluding the DNA evidence. In 1997, in State v. Hollis, #33007-1-1, the appellate court ultimately reversed these convictions, finding that the State v. Copeland case and other cases decided in the interim had resolved the statistical and probability issues and that the lab's statistical methods should be admitted into evidence. The prosecutor subsequently refiled charges against the defendant, who eventually pleaded guilty.

In a third case, State v. Stenson, 132 Wn.2d 668 (1997), involving a death sentence, the defense prevailed in arguing that the court should deny the admission of DNA evidence after a lengthy Frye hearing challenging the admissibility of RFLP DNA evidence at the trial level in 1993. Based on the other evidence, Stenson was convicted at trial and sentenced to death, which was affirmed on appeal by the Washington Supreme Court.

It appears that there are no other appellate cases reviewing a trial court's ruling that DNA testing did not meet scientific standards. Therefore, very few persons - less than five - are estimated to have been convicted in trials in which DNA evidence was not admitted because the court ruled it did not meet scientific standards. This estimate is based on the scarcity of previous appellate claims and the reality that DNA testing was rarely performed or attempted to be admitted in Washington cases prior to the early 1990s. None of the current test requests under the Act are based on trial court rulings that DNA testing did not meet sufficient scientific standards.

Estimate of Insufficiently-Developed DNA Technology Convictions

In order to provide an estimate of the number of persons convicted of crimes where DNA evidence was not admitted because DNA testing technology was not sufficiently developed to test the DNA evidence in the case, Department of Corrections data was examined and current DNA technology developments were considered, as were current and potential test requests under the Act, among other research.

A variety of reported requests have been made, or contemplated, under the Act on the basis that DNA technology advances have made it possible to more accurately test crime scene evidence. All seven actual and pending test requests under the Act have been made on this basis.

A current death penalty retrial also presents the recently developed DNA technology issue. In Brian Lord's 1987 high-profile Kitsap County rape/murder prosecution, identity of the perpetrator was the central issue at trial. His original sentence was later reversed on unrelated grounds by the Ninth Circuit Court of Appeals. For his retrial, scheduled for 2002, mitochondrial DNA testing developed in the late 1990s, much more recently than Lord's trial fourteen years ago, is being performed on a small number of hairs that were obtained at the crime scene in 1987 and preserved by the county. As discussed above, the admissibility of mitochondrial DNA, a

relatively new forensic testing method, has not yet been considered by the Washington Supreme Court, but has been admitted in trial courts.

A review of forensic DNA's rapid development over the past fifteen years indicates that since it continues to evolve, the number of cases in which DNA testing technology was not sufficiently developed to test the DNA evidence for Washington trials will also continue to evolve. Currently, scientists are refining DNA technology in order to be able to test even smaller samples, such as fingerprints.²⁴ Given the reality that DNA test technology is evolving, it is possible that some percentage of recently incarcerated inmates have been convicted in cases where DNA testing technology was not sufficiently developed to test DNA evidence found at the crime scenes, and that DNA technology has either subsequently been developed or will be developed in the foreseeable future with the capability of testing that DNA evidence.

Less than 267 inmates are estimated to have been convicted in trials in which DNA testing technology was not sufficiently developed to test the DNA evidence in the case. Up to 212 of those inmates were convicted prior to 1993, the year that the Cauthron case was decided and DNA evidence became routinely admitted in Washington criminal trials. Washington prisons currently house some 1145 persons convicted of murder, manslaughter or sexual offense crimes before 1993. Overall, about 18.5% of all homicide and sex offense cases are disposed of by trials.²⁵ Calculating 18.5% of the pre-1993 murder, manslaughter and sex offense inmate population, the maximum number that can be assumed to have been convicted at trial rather than by their own guilty pleas, results in the 212 persons estimated. Most of the others pleaded guilty. When an individual pleads guilty rather than claiming innocence and exercising his or her right to a trial, generally no DNA evidence is admitted in the case.²⁶

It is important to note that this estimate reflects only pre-1993 murder, manslaughter and sex offense trial *conviction rates* for cases in which DNA testing technologies were generally not available, not claims of innocence by inmates. A percentage of inmates in this group have initiated claims of innocence and requests for testing under the Act; it seems probable that some additional assertions of innocence and testing requests will be made.²⁷

For convictions entered after 1993, out of the approximately 4,080 inmates convicted of murder, manslaughter, or sex offense crimes, zero to fifty of these inmates are estimated to have been convicted in cases in which DNA technology not sufficiently developed to test the DNA evidence in the case became available later due to DNA technology advances. This estimate is low because murder, manslaughter and sex offense trials held after 1993 were very likely to include then-available DNA technology testing, particularly if the identity of the perpetrator was at issue. This post-1993 group of convictions would include cases in which evolved DNA testing capabilities, such as the ability to test degraded or small samples under newer DNA technology, has made more accurate testing available.

It is important to note that these murder, manslaughter, and sex offense convictions were supported by other non-DNA evidence in the cases, and that the estimate reflects only possible trial *conviction rates* of cases after 1993 in which DNA testing technology may not have been sufficiently developed to test the DNA evidence in the case, not claims of innocence. It is unknown how many inmates in this group may assert their innocence and request testing under the Act. None have done so thus far, but a number of the inmates who are seeking assistance from Innocence Project Northwest in obtaining DNA testing to support their claims of innocence were convicted between 1994 and 2000.²⁸

Actual and potential testing claims presented under the Act are a source of information for estimating the number of inmates convicted in cases where DNA testing technology was not sufficiently developed to test the DNA evidence in the case who assert they are innocent. At this point, there are seven identifiable cases in which requests for postconviction testing on this basis have been made or are pending. Preliminary details of most of the inmate-initiated DNA test contacts made to Innocence Project Northwest indicate that they are cases involving technology advancement. It is assumed that some inmates may presently be contemplating additional claims based on new developments in DNA technology and an awareness of the availability of DNA testing under the Act, and that as DNA advances continue, some of additional innocence claims may be made. It seems likely that less than fifty total test requests will be submitted under the Act.

Taking population differences into account, New York and Illinois' experiences of inmate's postconviction DNA testing requests under relatively new statutes are similar to Washington's receipt of 5 actual, and 2 pending, requests under the Act since its adoption. In New York, about 15 DNA test requests were made during the year 2000. Illinois had about 17 test requests per year during the first three years of its postconviction testing statute.²⁹

CONCLUSIONS

The Act Relating to DNA Testing of Evidence, which provides a procedure for inmates to request state-funded postconviction DNA testing, has resulted in less than five actual and two pending requests since its adoption in 2000. Inmates' rate of use of the new procedures for requesting postconviction testing in Washington appears to be very similar to the experiences of New York and Illinois.

Three test requests have been approved by county prosecutors. In these cases, the prosecutors initiated contact with inmates who had previously requested postconviction DNA testing before the Act was adopted. No tests have yet been performed.

Two test requests have been denied by county prosecutors. No appeals of prosecutorial denials have yet been made to the Attorney General. This raises a question as to whether unrepresented inmates whose postconviction DNA test requests are denied are aware that they may have the denial reviewed. An assurance that denied inmates understand their right to appeal can be made by the inclusion of that information in denial letters by county prosecutors.

The most common reason for inmates' test requests under the Act to not be approved has been the destruction of crime scene evidence, particularly in older cases. The Act's requirement that county evidence facilities retain all biological evidence until 2005 is crucial for this reason. However, some evidence room facilities do not have procedures for retention or are uncertain as to what constitutes biological evidence. Some crime scene evidence necessary for test requests made under the Act was previously destroyed or was only fortuitously discovered in clerk's office vaults, indicating a need to update evidence retention procedures. Further, for the most part, comprehensive training has not been provided to the individuals handling and retaining evidence under the Act.

It appears that some eligible inmates may not be aware of the Act's new testing procedures. Information should be posted on prison bulletin boards and other established areas where legal updates are disseminated to inmates.

As the Act becomes known, it is being utilized. One indication of the efficacy of the new procedures is the fact that some pre-Act requests for postconviction DNA tests were rejected by county prosecutors, but have been revived under the new procedure and are proceeding to testing.

It is estimated that between 212 and 267 inmates now serving time in Washington prisons were convicted in trials in which DNA evidence was not admitted because the court ruled DNA testing did not meet acceptable scientific standards or where DNA testing technology was not sufficiently developed to test the DNA evidence in the case. These trial convictions were entered as a result of other evidence, but DNA evidence capable of matching the perpetrator to the crime scene was not available. It is therefore predicted that some inmates in this group, predicted to be less than fifty, will make DNA test requests under the Act to pursue assertions of actual innocence.

Procedures established by the Act need to be evaluated by the Legislature in 2004 to determine whether technology developments are continuing to become available for more advanced DNA testing, and whether procedures for the destruction of retained biological evidence should be

authorized or modified. The Legislature should consider whether all or some of the procedures established under the Act remain critical. For this purpose, requests under the Act should continue to be tracked.

Lastly, if advances in postconviction DNA testing continue and it remains a developing method for inmates to be able to demonstrate their actual innocence, the Legislature should consider amending the Act to extend its provisions. Though the number of persons affected by the Act is relatively small, its provisions can result in the exoneration of innocent persons - a deeply-held, fundamental objective of our system of justice.

ENDNOTES

¹ National Research Council, *DNA Technology in Forensic Science*, National Academy Press, 1992 (also known as NRC I)

² National Research Council, *Committee on Evaluation of Forensic DNA Evidence: Update on Evaluating DNA Evidence*, National Academy Press, 1996 (Also known as NRC II)

³ National Institute of Justice, *Convicted by Juries, Exonerated by Science: Cases Studies in the Use of DNA Evidence to Establish Innocence After Trial*, US Department of Justice, 1996.

⁴ *Ibid.*, at iii.

⁵ *Ibid.*, at 28-29.

⁶ *Frye v. United States*, 293 F. 1013 (D.C. Cir. 1923)

⁷ Washington Court Rules, Rules of Evidence, Rule 702.

⁸ *State v. Cauthron*, 120 Wn.2d 879, at 882 (1993).

⁹ The Courts of Appeal decide a number of cases that the Courts determine should not be published in the Washington Appellate Reports. In this report, a number of these unpublished Court of Appeals decisions are discussed as examples of cases involving DNA that have been decided by the courts. They are identified by their Courts of Appeal numbers, and are intended to provide illustrations of fact patterns, but not to be taken as authority or precedent, in accordance with RAP 10.4(h).

¹⁰ The Court adopted the 'product rule' in *State v. Copeland*, 130 Wn.2d 244, which "as applied in RFLP typing means that the probability of a genetic profile occurring in the population is the product of the probabilities of each individual's allele's occurrence in the population." *Ibid.*, at 264-5.

¹¹ See, e.g. *State v. Kalakosky*, 121 Wn.2d 525 (1993) where the prosecuting attorney apparently did not charge the defendant with a rape count because the defendant's DNA test was exculpatory.

¹² "Federal grant will help analyze DNA in Green River Case," *The Olympian* (Associated Press), December 8, 2001.

¹³ "State DNA expert quits while probe continues," *Seattle Times*, September 30, 2000.

¹⁴ "Innocent plea in Green River killings," *USA Today*, December 18, 2001

¹⁵ Washington Court Rules, Superior Court Criminal Rules, Rule 3.3.

¹⁶ See, e.g., *State v. Cook*, #32146-3- I, where defense counsel made a strategy decision to enforce the defendant's right to a speedy trial, successfully opposing the state's continuance motion made on the ground that DNA testing was not completed.

¹⁷ See, e.g., *State v. Woods*, 143 Wn.2d 561 (2001)

¹⁸ Washington State Constitution, Article 1 Section 13, states: "The privilege of the writ of habeas corpus shall not be suspended, unless in case of rebellion or invasion the public safety requires it." The United States Constitution, Article 1, contains identical language.

¹⁹ This right has been codified in Washington at RCW 7.36.

²⁰ For example, Washington Court Rules set out procedures in the following rules: Rules of Appellate Procedure, Rule 16.3 *et seq* regarding filing personal restraint petitions (generally, Washington state habeas corpus petitions), Superior Court Criminal Rules, Rule 4.2(f) regarding motions to withdraw a guilty plea, Superior Court Criminal Rules, Rule 7.8 , regarding motions to vacate judgments, and Superior Court Criminal Rules, Rule 7.5 regarding motions for a new trial.

²¹ The project received some 150 initial contact letters from Washington inmates requesting various types of help that met initial screening criteria. In response to these initial contact letters, each inmate was sent a lengthy questionnaire designed to collect preliminary information about his or her case. Of the 95 responses received, 28 were classified as plausible postconviction DNA cases. Based on additional follow-up work, in four of these cases no DNA crime scene evidence had been collected. In another, the crime scene evidence had been destroyed. Letter from Innocence Project Northwest, November 2001.

²² Although the Act does not specify that these estimates should be made of the number of *currently* incarcerated persons, as opposed to *currently and formerly* incarcerated persons, it is assumed that the Legislature intended these estimates to be made of the currently incarcerated inmates, since that is the population affected by the Act.

²³ See, e.g., *Convicted by Juries*, p. 12. "All 28 cases (of wrongfully convicted men) involved some form of sexual assault. In six, ... assailants also murdered their victims."

²⁴ "All About Mitochondrial DNA," www.minotyping.com.

²⁵ As reported by data in court caseload reports at the Washington Courts website, www.courts.wa.gov, the cases of about 18.5% of homicide and sex offense defendants were resolved in trials in 2000. In the remaining 81.5% of the cases, the defendants pleaded guilty, were extradited, or receive deferred prosecution, the charges against them were dismissed, or other dispositions were entered. Individuals who plead guilty are less likely to later assert they are innocent. For example, only one of the 28 exonerated inmates described in *Convicted by Juries* had pleaded guilty. In addition, individuals who pleaded guilty face the procedural barriers in contesting their guilty pleas described earlier at page 10.

²⁶ The number of felony cases resolved by guilty pleas has historically been high; for example, 76% of all criminal cases filed in Washington's superior courts in 2000 involved guilty pleas. www.courts.wa.gov. Individuals who plead guilty are less likely to later assert they are innocent. For example, only one of the 28 exonerated inmates described in *Convicted by Juries* had pleaded guilty. In addition, individuals who pleaded guilty face the procedural barriers in contesting their guilty pleas described earlier at page 10.

²⁷ The probability that some percentage of those inmates convicted prior to 1993 without DNA evidence may be innocent is supported by the DNA exoneration of a percentage of primary suspects during current criminal investigations. This pre-charge use of DNA was not generally available before the early 1990s. Estimates of the percent of primary suspects currently exonerated by DNA testing varies. In an informal poll recently conducted by the Washington Association of Sheriffs and Police chiefs, law enforcement agencies in large Washington counties reported that less than 2% of primary suspects whose DNA is tested as part of a pre-charge investigation are exonerated. On the other hand, the National Center for State Courts reports the number of pre-charge primary suspects exonerated by DNA tests to be 25%. *Postconviction DNA Testing: Recommendations to the Judiciary from the National Commission on the Future of DNA Evidence*, www.ncsc.com.

²⁸ Interview with Innocence Project Northwest, December 2001.

²⁹ Letter from national Innocence Project, January 2001.

**Chapter 10.73
CRIMINAL APPEALS**

RCW 10.73.170 DNA testing requests.

(1) On or before December 31, 2004, a person in this state who has been convicted of a felony and is currently serving a term of imprisonment and who has been denied postconviction DNA testing may submit a request to the county prosecutor in the county where the conviction was obtained for postconviction DNA testing, if DNA evidence was not admitted because the court ruled DNA testing did not meet acceptable scientific standards or DNA testing technology was not sufficiently developed to test the DNA evidence in the case. On and after January 1, 2005, a person must raise the DNA issues at trial or on appeal.

(2) The prosecutor shall screen the request. The request shall be reviewed based upon the likelihood that the DNA evidence would demonstrate innocence on a more probable than not basis. Upon determining that testing should occur and the evidence still exists, the prosecutor shall request DNA testing by the Washington state patrol crime laboratory. Contact with victims shall be handled through victim/witness divisions.

(3) A person denied a request made pursuant to subsections (1) and (2) of this section has a right to appeal his or her request within thirty days of denial of the request by the prosecutor. The appeal shall be to the attorney general's office. If the attorney general's office determines that it is likely that the DNA testing would demonstrate innocence on a more probable than not basis, then the attorney general's office shall request DNA testing by the Washington state patrol crime laboratory.

(4) Notwithstanding any other provision of law, any biological material that has been secured in connection with a criminal case prior to July 22, 2001, may not be destroyed before January 1, 2005. [2001 c 301 § 1; 2000 c 92 § 1.]

Construction -- 2001 c 301: "Nothing in this act may be construed to create a new or additional cause of action in any court. Nothing in this act shall be construed to limit any rights offenders might otherwise have to court access under any other statutory or constitutional provision." [2001 c 301 § 2.]

Report on DNA testing -- 2000 c 92: "By December 1, 2001, the office of public defense shall prepare a report detailing the following: (1) The number of postconviction DNA test requests approved by the respective prosecutor; (2) the number of postconviction DNA test requests denied by the respective prosecutor and a summary of the basis for the denials; (3) the number of appeals for postconviction DNA testing approved by the attorney general's office; (4) the number of appeals for postconviction DNA testing denied by the attorney general's office and a summary of the basis for the denials; and (5) a summary of the results of the postconviction DNA tests conducted pursuant to RCW 10.73.170 (2) and (3). The report shall also provide an estimate of the number of persons convicted of crimes where DNA evidence was not admitted because the court ruled DNA testing did not meet acceptable scientific standards or where DNA testing technology was not sufficiently developed to test the DNA evidence in the case." [2000 c 92 § 2.]

Intent -- 2000 c 92: "Nothing in chapter 92, Laws of 2000 is intended to create a legal right or cause of action. Nothing in chapter 92, Laws of 2000 is intended to deny or alter any existing legal right or cause of action. Nothing in chapter 92, Laws of 2000 should be interpreted to deny postconviction DNA testing requests under existing law by convicted and incarcerated persons who were sentenced to confinement for a term less than life or the death penalty." [2000 c 92 § 4.]

Post-Conviction DNA Survey

1. Has your office received any requests for post-conviction DNA testing? Yes No
If so, please provide the following:

Name, address and phone number of attorney (or defendant if pro se) making the request:

Alleged basis for the request: _____

Response or current status of the request: _____

2. With respect to each case where either the State or Defense was prevented from presenting DNA test results at trial because of the Court's ruling that the **testing did not meet scientific standards**, please provide the cause numbers, case names and crimes charged.

3. With respect to each case where DNA testing of biological samples was not done or where relevant results were not produced because the **technology was insufficiently developed**, please provide the cause numbers, case names and crimes charged.

4. Have the advances in DNA technology permitted **reopening investigations** and/or charging of individuals based on the testing of previously acquired biological samples? If so, please provide the cause numbers, case names and crimes charged.

5. Have procedures been established in your county for the collection, preservation and retention of forensic biological evidence? **Yes No**. Identify the person(s) (name, address and phone number) responsible for supervising these procedures. _____

Signature Name (Printed) Date

County Phone # E-mail

Contact person: _____
Phone # E-mail

Defense Post-Conviction DNA Survey

1. Has your office received any requests for post-conviction DNA testing? Yes No

If so, please provide the following:

Basis for the request: _____

The cause Numbers, case names and crimes of the underlying conviction:

Was a request made to the prosecuting attorney for testing: Yes No

If not, why not, and if so, what was the result: _____

2. With respect to each case where either the State or Defense was prevented from presenting DNA test results at trial because of the Court's ruling that the **testing did not meet scientific standards**, please provide the cause numbers, case names and crimes charged.

3. With respect to each case where DNA testing of biological samples was not done or could not be done or where relevant results were not produced because the **technology was insufficiently developed**, please provide the cause numbers, case names and crimes charged.

4. Are you aware of cases where the state has **reopened investigations** and/or charged individuals based on the testing of previously acquired biological samples? If so, please provide the cause numbers, case names and crimes charged.

Signature Name (Printed) Date

County Phone # E-mail

Contact person: _____

Phone # E-mail

Washington State Office of Public Defense
Post-Conviction DNA Survey
DOC Contract Attorneys

Name: _____ Date: _____

Institution(s) served: _____

Number of inmates that have sought information/assistance regarding _____
any post-conviction DNA testing?

Number of inmates seeking assistance under RCW 10.73.170? _____

Expressed reasons for seeking information/assistance regarding post-conviction DNA testing?

What referrals have you made in these cases? _____

Number of years contracting with DOC to provide institutional legal services: _____

Approximate annual population of inmates of institutions served during each of those years:

Approximate percentage of those populations contacted for services in each of those years:

What steps (a) have been and (b) could be taken to effectively inform inmates of their rights to post-conviction DNA testing under RCW 10.73.170?

(a) _____

(b) _____

How many people do you estimate will seek post-conviction DNA testing under RCW 10.73.170 during the next four years?

Survey of Washington State Evidence Facilities

**By Anne E. Beardsley, Director
Innocence Project Northwest**

EXECUTIVE SUMMARY

The Act Relating to DNA Testing of Evidence, RCW 10.73.170, was implemented in Washington State in July 2000 and amended effective July 2001. One of the provisions of the Act requires that any biological material that has been secured in connection with a criminal case may not be destroyed before January 1, 2005. In Washington, the 39 counties' evidence rooms are responsible for the preservation of evidence.

Interviews of the county evidence room supervisors provide a basic portrait of evidence room procedures and the effect of RCW 10.73.170 on those procedures. Out of the 39 counties contacted for interviews, 34 counties participated.

The interviews revealed:

- In 91% of Washington counties participating, the individual prosecutor must give his or her authorization to destroy evidence from a case, including biological material.
- Among the 80% of the counties interviewed that developed procedures to comply with RCW 10.73.170, there was no consensus about the statutory requirements.
- In 91% of the counties, it is the responsibility of the officer on the scene of the crime to determine what evidence constitutes biological material.

In conclusion, the implementation of RCW 10.73.170 varies significantly across the state of Washington. Whether or not potential DNA evidence is preserved depends largely on which county collected the evidence.

INTRODUCTION

This report was prepared and is presented pursuant to a contract with the Washington State Office of Public Defense (OPD) in coordination with its study and report regarding the implementation of RCW 10.73.170, the Act Relating to DNA Testing of Evidence.

Washington State OPD contracted with the Innocence Project Northwest (IPNW) to conduct a telephone survey of each county's evidence facility. The survey inquired about the county's identification and preservation of potential biological samples and about the county's compliance with RCW 10.73.170.

METHOD

Innocence Project Northwest called each county's sheriff's office and asked to speak to the individual in charge of evidence. The background of the survey was explained and the evidence facility supervisors were advised that an understanding of each of the 39 counties' evidence storage procedures was necessary and requested the supervisor's assistance.

Each interview covered the following inquiries:

- Does evidence preservation depend on the classification of the crime?
- Does evidence preservation depend on whether there was an actual trial versus a guilty plea?
- As to the evidence that is already being preserved, who decides when the evidence will be destroyed?
- Was the provision in RCW 10.73.170, that any biological material that has been secured in connection with a criminal case may not be destroyed before January 1, 2005, known to the evidence room?
- Did the county develop procedures to follow this provision?
- Who determines if the evidence contains biological material?
- Will the implementation of this statute cause potential space concerns for the storage of evidence?
- Has there been any special training for the handling of biological evidence?

Over the course of two weeks, Innocence Project Northwest contacted all 39 counties' evidence rooms. Thirty-four of the 39 counties (87%) participated in the interviews.

FINDINGS

Does evidence preservation depend on the classification of the crime?

Sixty-five percent of the counties interviewed stated that their decisions affecting the preservation of evidence is not affected by the crime charged. In these counties, all evidence, regardless of the crime, is processed following the same procedures. For example, DNA evidence that is part of a homicide investigation is stored in the same manner as DNA evidence recovered in an assault investigation.

Eleven counties' storage of evidence is affected by the crime charged. In one of these counties, all evidence is held in cases of serious crimes because DNA may be present. Most of these counties maintain that the differences in evidence storage occurs between misdemeanors and felonies. Whether or not a suspect was charged in the case is also a distinguishing factor.

Washington State County Evidence Room Interview Responses

County	Storage affected by crime charged	Storage affected by plea of guilty or not guilty	Developed procedures to comply with statute	Storage concerns due to statute
ADAMS	No	No	Yes	Yes
ASOTIN	No	No	No	Yes
BENTON	No	No	Yes	-----
CHELAN	Yes	No	Yes	Yes
CLALLAM	No	No	Yes	No
CLARK	Yes	No	Yes	Yes
COLUMBIA	Yes	No	Yes	-----
COWLITZ	No	No	Yes	Yes
DOUGLAS	Yes	Yes	Yes	-----
FERRY	Yes	Yes	No	Yes
FRANKLIN	No	No	Yes	-----
GARFIELD	No	Yes	Yes	-----
GRANT	Yes	No	Yes	Yes
GRAYS HARBOR	No	No	No	No
ISLAND	-----	-----	Yes	-----
JEFFERSON	-----	-----	-----	-----
KING	No	No	Yes	-----
KITSAP	No	No	Yes	-----
KITTITAS	Yes	Yes	Yes	Yes
KLICKITAT	-----	-----	-----	-----
LEWIS	No	No	Yes	-----
LINCOLN	No	No	Yes	-----
MASON	Yes	No	Yes	Yes
OKANOGAN	Yes	Yes	No	No
PACIFIC	Yes	No	Yes	No
PEND OREILLE	No	No	Yes	-----
PIERCE	No	Yes	Yes	Yes
SAN JUAN	No	No	Yes	Yes
SKAGIT	No	No	No	Yes
SKAMANIA	-----	-----	-----	-----
SNOHOMISH	No	No	Yes	-----
SPOKANE	No	No	No	Yes
STEVENS	-----	-----	-----	-----
THURSTON	No	No	Yes	-----
WAHKIAKUM	-----	-----	-----	-----
WALLA WALLA	Yes	Yes	Yes	No
WHATCOM	No	No	Yes	-----
WHITMAN	No	No	No	Yes
YAKIMA	No	No	Yes	-----
Yes responses	11 (32%)	7 (21%)	27 (80%)	14 (41%)

Summary of Interview Responses by County Evidence Rooms in Washington

Response of 34 Counties that participated in interviews	Storage affected by crime charged	Storage affected by plea of guilty or not guilty	Prosecutor authorizes destruction of evidence	Developed procedures to comply with statute	Officer on crime scene determines if evidence is biological
Yes	11 (32%)	7 (21%)	31 (91%)	27 (80%)	31 (91%)
No	22 (65%)	26 (76%)	3 (9%)	7 (20%)	3 (9%)
No Comment	1 (3%)	1 (3%)	0	0	0

Does evidence preservation depend on whether there was an actual trial or if the defendant pleaded guilty?

Over three-fourths of the counties, 76%, responded that their preservation of evidence is not affected by whether or not there was a trial or a guilty plea in the case. In these counties, the evidence rooms maintain the same process for evidence gathered for a trial and evidence gathered in cases where the defendant admits his or her involvement in the charged crime.

However, seven counties reported that they treat evidence in cases that go to trial differently than the evidence in cases where the defendant pleads guilty. One county's evidence room tends to hold onto evidence longer from cases involving a trial because the chance for an appeal tends to be greater. Another county's evidence room supervisor explained that whether there was a trial or a plea affects the prosecutor's decision to authorize the destruction of evidence, but does not directly influence the work of the evidence room. Additionally, two other counties stated that the prosecutors authorize the destruction of evidence once the defendant pleads guilty.

As to the evidence that is already being preserved, who decides when the evidence will be destroyed?

In 91% of the counties, the evidence room must receive authorization from the prosecutor of a case before destroying or disposing of the case's evidence. In these counties, the general procedure consists of the prosecutor initiating contact with the evidence room. However, evidence room employees also may contact the prosecutor and ask for the prosecutor's authorization to dispose of the evidence. If there is no release from the prosecutor that authorizes the destruction of the evidence, the property room will save all of the evidence from the case.

In some counties, even though the prosecutor must authorize the destruction of evidence, the evidence room also has some discretion. In one county, once cases are complete, the prosecutors

automatically give permission for the evidence room to destroy the evidence from the case as soon as the 30 day appeal period is finished. Even with the implementation of RCW 10.73.170, this county's process remains the same and the prosecution still gives automatic permission for destruction. However, the evidence room must now determine if DNA evidence is present and retain that evidence until 2005. After January 1, 2005, the evidence room will be able to destroy all of the evidence, including the DNA samples, without conferring with the prosecutor because the evidence room already has the prosecutor's authorization. Similarly, another county stated that even if the prosecutor authorizes the destruction of the evidence, the property room must go through all of the evidence and retain the biological materials.

Only three counties do not require the prosecutor's authorization to destroy any evidence. One of these counties developed an inter-office agreement between the sheriff's office and the prosecutor's office in 1993. According to the agreement, the sheriff's office may destroy evidence from misdemeanors after two years and evidence from felonies after three years without obtaining the prosecutor's authorization or consent. The other two counties allow the sheriff to authorize the destruction of certain evidence.

Did the county develop procedures to follow this provision?

Twenty-five out of the 34 questioned counties have established procedures to comply with RCW 10.73.170. The procedures developed vary widely from county to county. One deputy stated that the main problem implementing this statute is the fact that any form of physical contact with an item potentially could lead to biological evidence. Accordingly, he believes that the statute must be more specific in its requirements. A supervisor in a large county's evidence room stated that this law as it is written makes her job extremely difficult. Her interpretation of the statute requires her to hold all of the evidence from cases that have biological materials as evidence until 2005, not merely the biological samples.

Similarly, a major metropolitan county expressed that although they are trying to reasonably honor the statute, they are unclear about the statute's interpretation and what evidence they must keep. This county feels that the law is problematic because the legislature did not define "biological material." Accordingly, the evidence room is unclear if the statute requires that they save plant evidence, envelopes and stamps that may have been licked, etc. In the meantime, the evidence room is retaining as much evidence as possible, including all of the evidence from the case, not just the materials identified as biological.

In contrast, another county's procedures mandate that the evidence room retain "all criminal evidence." Until directed otherwise, only the actual DNA samples are saved and, if authorized by the prosecutor, other evidence from the case is disposed of. He recognizes that this procedure will be problematic if the case needs to be retried.

Twenty-six percent of the evidence rooms report that they have no procedures set to ensure their compliance with RCW 10.73.170.

Who determines if the evidence contains biological material?

In 91% of the counties interviewed, the officer and/or detective on the crime scene determines what evidence contains biological material. One of these 31 counties explained that the evidence room has no voice in what is classified as biological material. By the time the evidence is given

to the evidence room, the officers have already packaged it and marked the potential DNA samples with bio-hazard stickers. However, in three other counties, the officer on the scene makes the initial determination if biological material is present, but the evidence room also plays a role. Blood and semen stains are usually obvious, but hair and urine samples may be easily overlooked. Accordingly, the person processing the evidence in the evidence room serves as a check and adds bio-hazard labels on evidence that originally was overlooked. The evidence room supervisor will then speak to the officer about his or her oversight.

Although reporting that the officer on the scene plays a pivotal role, a deputy who is in charge of a county evidence room believes that compliance with the statute will require the prosecutors to take on additional responsibilities. He maintains that prosecutors should go through all of their cases and earmark the cases where biological evidence played or could have played a part in the conviction. The prosecutors should then go through the evidence of each of these cases and tell the evidence room which items constitutes biological evidence and therefore must be kept.

Is it foreseeable that the implementation of this statute will cause space concerns for the storage of evidence?

Forty-one percent of the counties answering this question believed that the statute will deplete their storage and refrigeration resources. One of the deputies interviewed said that as a result of this statute, all of the state's evidence rooms are faced essentially with a crisis. He believes that the only way his county will be able to comply with the statute is if the Washington State Legislature provides additional funding to the counties for new storage and climate controlled areas.

Of the five evidence rooms reporting that the statute would not affect their storage capacity, two of the counties said that they will need to purchase additional freezers in response to the new statutory requirements.

Is there special training for the storage of biological evidence?

Only one of the 34 respondents mentioned an evidence class that discussed the storage of biological evidence. She reported that during the 8 hour conference, attendees asked numerous questions about RCW 10.73.170. Due to these questions, there was discussion about planning a week-long evidence class to address the complexities and requirements of the statute. The only advice presented at the conference about the statute's requirements was for the evidence rooms to talk to the individual prosecutors on each case and to try to preserve all evidence.

CONCLUSIONS

The implementation of RCW 10.73.170's biological evidence preservation requirement varies significantly across the state of Washington. While 24% of the counties interviewed were unaware of the statute, other counties restructured all of their evidence handling procedures in order to comply. Though three-quarters of the counties developed procedures to comply with RCW 10.73.170, they did not reach a consensus about the basic requirements of the statute. Accordingly, whether or not potential DNA evidence is preserved depends largely on which county collected the evidence.

The evidence officers in the 39 counties in the state of Washington have expressed a need for clarification of the requirements of RCW 10.73.170. A precise definition of “biological material” would facilitate coherent implementation the statute. The county evidence rooms seek guidance in their decision of whether to save all of the evidence in a case or just the potential biological material from a case until January 1, 2005. Further, distinctions between felony and misdemeanor criminal cases would benefit the counties, reducing the volume of material that must be preserved and the number of cases which require this detailed attention. Finally, an organized effort to educate evidence room staffs regarding this and similar initiatives would resolve many of the irregularities now observed.

Glossary of Terms

Legal Terms

ER 702 – Washington’s rule of evidence governing the admissibility of expert testimony. The rule states: “If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise.”

Frye Standard –standard used by Washington courts to determine the admissibility of novel scientific evidence. See State v. Baity, 140 Wn.2d 1 (2000). The Washington Supreme Court, in State v. Cauthron, 120 Wn.2d 879 (1993), at 886-87 set out its interpretation of admissibility with respect to DNA evidence as follows:

In Washington, we have adopted the standard for determining if evidence based on novel scientific procedures is admissible set forth in Frye v. United States, 293 F. 1013, 1014, 34 A.L.R. 145 (D.C. Cir. 1923). The rule is settled:

[E]vidence deriving from a scientific theory or principle is admissible only if that theory or principle has achieved general acceptance in the relevant scientific community. State Martin, 101 Wn.2d 713, 684 P.2d 651 (1984).

The Washington Supreme Court went on to note, at 887, that:

Under Frye, a court is to determine if the evidence in question has a valid, scientific basis. Because judges do not have the expertise required to decide whether a challenged scientific theory is correct, we defer this judgment to scientists. This inquiry turns on the level of recognition accorded to the scientific principle involved - we look for *general acceptance* in the appropriate scientific community. See Jones v. United States, 548 A.2d 35, 42 (D.C. 1988). If there is a significant dispute between qualified experts as to the validity of scientific evidence, it may not be admitted.”

Scientific Terms

DNA - deoxyribonucleic acid – Considered the “blueprint of life”, it is the genetic material in cells. It can be pictured as a long, double-stranded string, with millions of links or bases between the strands, like the steps of a ladder. Inside the cell these strands are twisted into a spiral or double helix. One strand of the ladder is inherited from each parent and passed on to each offspring.

Locus (plural = loci) – locations, refers to specific, identified locations on chromosomes.

Mitochondrial DNA (MtDNA) – DNA found in the mitochondria, inherited solely from the mother. Because there are hundreds of thousands of mtDNA molecules per cell, even degraded bones, teeth, or similar samples may be tested.

Forensic Technologies

Polymorphism -- The variety of identifiable patterns known to occur at specific sites in DNA. These sites are studied, the frequencies of each pattern are measured, and the likelihood that

two samples were from the same source is calculated. These patterns are the basis of human DNA identification technology.

Restriction Fragment Length Polymorphism (RFLP) Technology - the analysis of the lengths of DNA fragments when chromosomes are cut at specific sites by restriction enzymes. After sample DNA is cut (digested) with one or more restriction enzymes, the resulting fragments are sorted according to molecular size. The size differences are analyzed to determine the sample's DNA profile.

Polymerase Chain Reaction (PCR) Technology – A technique used to copy DNA in the laboratory. PCR development gives scientists the ability to test small samples of blood or other biological fluids - as few as 50 -100 cells. DNA in a sample is transformed after chemicals are inserted that cause individual DNA stands to replicate, producing a larger number of measurable cells. This allows faster and more precise analysis of samples that contain only small quantities of DNA.

DQ alpha testing –Human Leukocyte Antigen (HLA) Blood testing before method used before DNA testing was widely available. The DQA1 or DQ-alpha gene, which is polymorphic, was measured. Early PCR DNA identification techniques utilized this technique.

D1S80 - A specific DNA site that was used for early PCR commercial testing kits. Its focus is an area on chromosome 1 that contains a 16 base sequence that repeats itself different numbers of times; the different numbers of repetitions are matched between samples.

Short Tandem Repeats (STRs) – A PCR-based technology focusing on differences between individuals based on the number of repeating small bases of DNA at specific loci. Under the STR-based guidelines adopted by the FBI for the CODIS system, the national standard for DNA identification, 13 specific areas are examined.

Single Nucleotide Polymorphisms (SNPs) - Specific sites in DNA where single bases may differ in the population. Human genome research has found that there are several million of these differences between any two individuals. SNP technology has the potential to map an individual's DNA uniquely, without the need for a population base.

CODIS – Combined DNA Index System – The FBI's computerized system for communicating, collecting and comparing STR profiles. Authorized by Congress in 1994, the system set PCR based STR analysis at 13 specific loci. CODIS is based on the entry of DNA profiles into offender or forensic (crime scene) databases by crime labs in the various states. This information is then compared with offender or forensic profiles to link crimes and to connect crimes to offenders.

Sources

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