

April 2001

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Martha L. Lawson

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Martha L. Lawson, *Personal Does Not Always Equal "Private": The Constitutionality of Requiring DNA Samples from Convicted Felons and Arrestees*, 9 Wm. & Mary Bill Rts. J. 645 (2001), <https://scholarship.law.wm.edu/wmborj/vol9/iss3/6>

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PERSONAL DOES NOT ALWAYS EQUAL "PRIVATE": THE CONSTITUTIONALITY OF REQUIRING DNA SAMPLES FROM CONVICTED FELONS AND ARRESTEES

In the past couple of decades, the use of DNA testing has become a major debate in criminal law. Many Americans have called for regular use of DNA testing in criminal cases, particularly in the aftermath of the O.J. Simpson murder trial. While these tests can potentially help better ensure justice, conducting DNA tests raises fundamental personal privacy concerns. This Note analyzes the development of DNA testing throughout the United States, giving a historical account of how the courts and local police departments have dealt with this testing. Finally, the Note argues that the government's interest in mandatory testing of all those arrested outweighs individuals' privacy interests, therefore making DNA "fingerprints" a substitute for traditional fingerprints.

* * *

INTRODUCTION

Since the mid-1980s, police have been using analysis of deoxyribonucleic acid (DNA) in criminal investigations to match evidence from crime scenes with suspects.¹ Over the last several years, police have gained a new weapon in the fight against crime: DNA databases. Using a database of previously identified and analyzed DNA samples, police can search for a match to a sample found at a crime scene and identify or exclude suspects. Police can also use the databases to match evidence found at different crime scenes, thereby establishing links between crimes, which in turn can assist in identifying or ruling out suspects.

Until recently, the entries in DNA databases were created exclusively from samples found at crime scenes and samples collected from people previously convicted of particular violent crimes, typically rape and murder.² State statutes delineate which crimes trigger the requirement for individuals to provide a biological sample to be used in the creation of a DNA profile for inclusion in a DNA database.

Recently, several states have begun to require DNA samples from people convicted of non-violent offenses as well as violent offenses. Commentators and prisoners have raised challenges, based on the Fourth Amendment to the United

¹ See generally JOSEPH WAMBAUGH, *THE BLOODING* (1989) (profiling the investigation into a 1983 murder in Narborough, England, the world's first criminal case to be resolved by "genetic fingerprinting").

² See *infra* notes 43-56 and accompanying text.

States Constitution,³ to both the concept of DNA databases and to the requirement for non-violent offenders to provide samples. Courts, however, have repeatedly upheld the constitutionality of these statutes.⁴

Now, there is a movement toward requiring DNA samples from any person arrested for a crime, whether or not the person is convicted of the crime. This presents new concerns and requires a careful examination of the constitutionality of these requirements under the Fourth Amendment's prohibition against unreasonable searches and seizures.

A thorough analysis of court decisions regarding DNA databases demonstrates that mandatory testing of those arrested is constitutional if the government's interest in obtaining the sample outweighs the individual's privacy interest.⁵ This Note concludes that this test is satisfied, and that DNA fingerprints (as distinguished from an entire DNA sample) should be viewed as an identifier, no different from traditional fingerprints.

I. BACKGROUND

A. *What Is DNA?*

Deoxyribonucleic acid (DNA) is the genetic code that dictates the physical characteristics of all living things.⁶ DNA is essentially a chain, made up of matched pairs of amino acids, which exists in every cell of every living thing.⁷ These chains are organized in different patterns in different species and even in different individuals within each species.⁸

The genetic code created by DNA is unique in every individual, with the exception of identical twins, who share the same genetic makeup.⁹ Furthermore, the

³ See U.S. CONST. amend. IV. ("The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no Warrants shall issue, but upon probable cause . . .").

⁴ See Michael J. Markett, Note, *Genetic Diaries: An Analysis of Privacy Protection in DNA Data Banks*, 30 SUFFOLK L. REV. 185, 203 (1996) ("While prisoner suits have routinely challenged DNA data bank statutes on Fourth Amendment grounds, courts have universally held that such statutes are constitutional.").

⁵ See *infra* notes 99-159 and accompanying text.

⁶ See R. SCOTT HAWLEY & CATHERINE A. MORI, *THE HUMAN GENOME, A USER'S GUIDE* 3-5 (1999).

⁷ See *id.*

⁸ See *id.*

⁹ See LORNE T. KIRBY, *DNA FINGERPRINTING: AN INTRODUCTION*, at xv (1990).

DNA in each individual is the same in every cell of that individual.¹⁰

Different portions of a person's DNA create a code that dictates the physical characteristics of that individual.¹¹ Therefore, while an individual's genetic code, in its entirety, is unique to that person, individual segments may be the same in different people.¹² For example, the sequence that codes for eye color will be the same in two people with the same color eyes. This also means that the DNA of members of the same family, ethnic, or racial group will tend to share more similarities than with those in other populations.¹³

B. *What Is a DNA Fingerprint?*

Scientists have been successful in identifying which portions of the DNA establish the genetic code for many different physical characteristics.¹⁴ Even so, up to ninety-five percent of the long string of code housed in DNA serves no known purpose.¹⁵ This "mysterious, non-functioning genetic material"¹⁶ has been dubbed "junk" DNA.¹⁷

In the mid-1980s, scientists began to discover new methods of examining DNA and recognizing patterns in the genetic code.¹⁸ In 1985, an English scientist named Alec Jeffreys determined that sequences within the "junk" DNA repeated themselves a different number of times in different people.¹⁹ These sequences, and their pattern of repetition, appear to vary randomly across the population.²⁰

This discovery of unique patterns in "junk" DNA led scientists to develop techniques known as DNA typing, or DNA fingerprinting.²¹ These techniques, in turn, allowed scientists to compare the DNA from two biological samples to determine whether the samples came from the same individual or from different individuals.²²

¹⁰ See *id.* at 1.

¹¹ See HAWLEY & MORI, *supra* note 6, at 4.

¹² See KIRBY, *supra* note 9, at 2.

¹³ See *id.* at 3-5.

¹⁴ See Sharon Begley, *Decoding the Human Body*, NEWSWEEK, Apr. 10, 2000, at 51 (describing The Human Genome Project's efforts to identify the function of each gene in human DNA).

¹⁵ See William Tucker, *DNA Fingerprinting Is Reliable and Accurate*, in IS DNA FINGERPRINTING ACCURATE? 123 (1996).

¹⁶ *Id.*

¹⁷ *Id.*

¹⁸ See KIRBY, *supra* note 9, at 2.

¹⁹ See Tucker, *supra* note 15, at 123 (explaining the concept known as variable number tandem repeats).

²⁰ See *id.*

²¹ See KIRBY, *supra* note 9, at 2.

²² See *id.* at 3.

Today, multiple techniques for matching DNA from different samples exist,²³ but these all have certain similarities. Matching is done by comparing small sections of the genetic code called markers.²⁴ These markers are tested one at a time until an inconsistency is found (indicating that the two samples are not from the same individual) or until a match is declared based on the extremely low probability of two individuals sharing the same characteristics.²⁵

C. *The Use of DNA in Criminal Investigations*

The likely impact of DNA fingerprinting on law enforcement was quickly recognized and widely touted.²⁶ DNA can be extracted from a wide variety of biological sources, including blood, saliva, hair follicles, semen, tooth pulp, or bone marrow.²⁷ Any time one of these substances is left at a crime scene, or on any piece of evidence connected with the crime, it is possible that DNA matching could be used to link the crime sample to a suspect.²⁸

Quite simply, DNA provides investigators with important clues in cases that initially seem to provide no leads. For example, DNA extracted and analyzed from the saliva used to seal an envelope was used to link a suspect to the 1993 bombing of the World Trade Center.²⁹ Similarly, Illinois State Police have reportedly been able to extract DNA from the remnants of a chicken dinner eaten by the person who later killed seven people during the commission of a robbery at a fast food

²³ See *id.*

²⁴ See *id.*

²⁵ See *id.*

²⁶ See *People v. Wesley*, 533 N.Y.S.2d 643, 644 (Co. Ct. 1988) (touting the potential of DNA fingerprinting to be the greatest single advance in the search for truth, conviction of the guilty, and the acquittal of the innocent since the advent of cross-examination); IAN W. EVETT & BRUCE S. WEIR, *INTERPRETING DNA EVIDENCE, STATISTICAL GENETICS FOR FORENSIC SCIENTISTS*, at xiii (1998) (touting DNA fingerprinting as the greatest advance in forensic science since fingerprinting was developed at the turn of the century); KIRBY, *supra* note 9, at 189 (“DNA analysis will be to the end of the 20th century what fingerprinting was to the 19th.”); HARLAN LEVY, *AND THE BLOOD CRIED OUT: A PROSECUTOR’S SPELLBINDING ACCOUNT OF THE POWER OF DNA* 18 (1996) (“I firmly believe now, that DNA analysis can promote a more just society, both by making punishment of the guilty more likely and by assuring exoneration of the innocent.”); Edward Lewine, *Gov’s DNA Plan Rapped as Test Backlog Looms*, N.Y. DAILY NEWS, Feb. 27, 2000, at 18 (“No one disputes that DNA analysis is the most important new crime-fighting tool to come along since the fingerprint.”).

²⁷ See KIRBY, *supra* note 9, at 51.

²⁸ New techniques for analyzing DNA are currently in development, and could allow a fingerprint to be developed from smaller biological samples than is currently possible. See Margaret Zack, *New DNA Test Undergoing Court Challenge, If the Court Accepts the Test as Reliable, It Will Be Used on Much Smaller Evidence Samples*, MINNEAPOLIS-ST. PAUL STAR-TRIBUNE, Feb. 8, 2000, at 1B.

²⁹ See Tucker, *supra* note 15, at 120.

restaurant.³⁰ Investigators are now hoping to find a match to that sample by searching DNA databases throughout the country.³¹

The use of DNA in criminal investigations was pioneered in England during the 1986-87 investigation of two related rapes.³² The use of DNA evidence in the United States followed quickly during a rape prosecution in Florida.³³

D. *The Development of DNA Databases*

Just as the use of DNA fingerprinting in criminal investigations began in England, the use of DNA databases was first employed in that country. The British government has established a DNA database that now contains over 360,000 entries, and has led to 28,000 matches between crime scenes and suspects, as well as 6,000 links between crime scenes.³⁴ According to some estimates, the British DNA database helps to solve about 500 crimes each week.³⁵

In Britain, samples have been taken from all persons charged with a "recordable offence" since 1995.³⁶ Eventually the British database is expected to include one-third of all English men between the ages of sixteen and thirty.³⁷

In the United States, federal law authorizes the Federal Bureau of Investigation (FBI) to create and maintain an index of DNA identification information.³⁸ The law authorizes the federal DNA database to include DNA records of persons convicted of crimes, analyses of DNA samples recovered from crime scenes, and analyses of DNA samples recovered from unidentified human remains.³⁹

The federal database, known as the Combined DNA Information System (CODIS) has been operational since October 1998.⁴⁰ At that time, the database included more than 250,000 DNA profiles,⁴¹ and it has been used to find over 400

³⁰ Chris Fusco & Sandra Del Re, *DNA Match Sought in Brown's Case, Sample Found on Chicken Bone Entered into National Database*, CHI. DAILY HERALD, Apr. 8, 2000, at 5.

³¹ *See id.*

³² *See* LEVY, *supra* note 26, at 26-31; *see generally* WAMBAUGH, *supra* note 1 (chronicling the British investigation).

³³ *See* LEVY, *supra* note 26, at 17, 31.

³⁴ *See* Peter Donnelly & Richard D. Friedman, *DNA Database Searches and the Legal Consumption of Scientific Evidence*, 97 MICH. L. REV. 931, 932 (1999).

³⁵ *See Beef up Funding for Crime Labs*, ATLANTA J. & CONST., Mar. 9, 2000, at A18; Erin Hallissy & Charlie Goodyear, *How DNA Fights Crime, Other States Make Better Use of Technology*, S.F. CHRON., Oct. 20, 1999, at A1 [hereinafter *How DNA Fights Crime*].

³⁶ Donnelly & Friedman, *supra* note 34, at 939.

³⁷ *See id.* at 940.

³⁸ *See* DNA Identification Act of 1994, 42 U.S.C. § 14132(a) (1994).

³⁹ *See id.*

⁴⁰ *See* Donnelly & Friedman, *supra* note 34, at 940.

⁴¹ *See id.*

matches with samples from crime scenes.⁴² The federal database is largely a conglomeration of DNA databases from the states. The federal database, however, has been limited to convicted felons, whether convicted of violent or nonviolent crimes.

All fifty states currently allow for DNA testing of designated sets of convicted offenders.⁴³ Most state laws require samples only from a narrow group of felons, typically those convicted of homicide and sexual assault.⁴⁴ In most states, giving a blood sample for analysis is a condition to parole or release.⁴⁵

There is a growing movement toward increasing the number of DNA

⁴² See *id.*

⁴³ See ALA. CODE § 36-18-24 (Supp. 1999); ALASKA STAT. § 44.41.035 (Michie 1998 & Supp. 1999); ARIZ. REV. STAT. ANN. § 31-281 (West 1996 & Supp. 1999); ARK. CODE ANN. § 12-12-1109 (Michie 1999); CAL. PENAL CODE § 296.1 (West 1999 & Supp. 2000); COLO. REV. STAT. § 17-2-201(5)(g) (1999); CONN. GEN. STAT. § 54-102(g) (1994 & Supp. 1999), repealed and substituted by 1999 Conn. Acts 183, § 11 (Reg. Sess.); DEL. CODE ANN. tit. 29, § 4713(b) (1997 & Supp. 1998); FLA. STAT. ANN. § 943.325 (West 1996 & Supp. 2000); GA. CODE ANN. § 24-4-60 (1995 & Supp. 1999); HAW. REV. STAT. § 706-603 (1993 & Supp. 1998); IDAHO CODE § 19-5507 (Michie 1997 & Supp. 1999); 730 ILL. COMP. STAT. ANN. 5/5-4-3 (West 1997 & Supp. 1999), as amended by 1999 Ill. Laws 528; IND. CODE § 10-1-9-10 (1999); IOWA CODE § 13.10 (1995 & Supp. 1999); KAN. STAT. ANN. § 21-2511 (1995 & Supp. 1999), as amended by 1999 Kan. Sess. Laws 164 §§ 3, 39; KY. REV. STAT. ANN. § 17.170 (Michie 1996 & Supp. 1999); LA. REV. STAT. ANN. § 15:609 (West Supp. 2000); ME. REV. STAT. ANN. tit. 25, § 1574 (West Supp. 1996); MD. ANN. CODE art. 88B, § 12A (1998 & Supp. 1999); MASS. ANN. LAWS ch. 22E, § 3 (Law. Co-op. 1996 & Supp. 2000); MICH. COMP. LAWS ANN. § 750.520m (West 1991 & Supp. 1999); MINN. STAT. § 609.3461 (Supp. 2000); MISS. CODE ANN. § 45-33-15(3) (1999 & Supp. 1999); MO. ANN. STAT. § 650.005 (West Supp. 2000); MONT. CODE ANN. § 44-6-102 (1999); NEB. REV. STAT. § 29-4106 (Supp. 1999); NEV. REV. STAT. ANN. § 176.0913 (Michie 1997 & Supp. 1999); N.H. REV. STAT. ANN. § 632-A:21 (1996 & Supp. 1999); N.J. STAT. ANN. § 53:1-20.20 (West Supp. 1999); N.M. STAT. ANN. § 29-16-2 (Michie 1997 & Supp. 1999); N.Y. EXEC. LAW § 995 (Consol. 1995 & Supp. 2000); N.C. GEN. STAT. § 15A-266.4 (1999); N.D. CENT. CODE § 31-13-03 (1997 & Supp. 1999); OHIO REV. CODE ANN. § 2901.07 (West 1999 & Supp. 1999); OKLA. STAT. ANN. tit. 74, § 150.27a (West 1995 & Supp. 2000); OR. REV. STAT. § 137.076 (Supp. 1998), as amended by 1999 Or. Laws 97, § 1; 35 PA. CONS. STAT. ANN. § 7651.306 (West 1998 & Supp. 1999); R.I. GEN. LAWS § 12-1.5-8 (Supp. 1999); S.C. CODE ANN. § 23-3-620 (Law. Co-op. Supp. 1999); S.D. CODIFIED LAWS § 23-5-14 (Michie 1998 & Supp. 2000), as amended by H.B. 1064, 75th Leg. (S.D. 2000); TENN. CODE ANN. § 38-6-113 (1997 & Supp. 1999); TEX. GOV'T CODE ANN. § 411.142 (Vernon 1998 & Supp. 2000); UTAH CODE ANN. § 53-10-403 (Supp. 1999); VT. STAT. ANN. tit. 20, § 1993 (Supp. 1999); VA. CODE ANN. § 19.2-310.2 (Michie 1995 & Supp. 1999); WASH. REV. CODE ANN. § 43.43.754 (West 1998 & Supp. 2000); W. VA. CODE § 15-2b-6 (2000), as amended by H.B. 4322, 75th Leg. (W.Va. 2000); WIS. STAT. § 165.76 (1997 & Supp. 1999); WYO. STAT. ANN. § 7-19-403 (Michie 1999).

⁴⁴ See Donnelly & Friedman, *supra* note 34, at 939 n.29.

⁴⁵ See Yale H. Yee, Note, *Criminal DNA Data Banks: Revolution for Law Enforcement or Threat to Individual Privacy?*, 22 AM. J. CRIM. L. 461, 477 (1995).

fingerprints incorporated into DNA databases.⁴⁶ At least six states now allow for DNA testing of all convicted felons, whether violent or non-violent offenders.⁴⁷ States that include non-violent offenders in their databases defend that decision based on the results. Virginia reports that in sixty percent of the matches achieved from the Commonwealth's database the original sample was taken pursuant to an arrest for a property crime.⁴⁸ In Florida, the figure is fifty-two percent.⁴⁹

On September 1, 1999, the most inclusive DNA database enabling statute to date went into effect in Louisiana.⁵⁰ The Louisiana law allows for the mandatory collection of DNA samples from any person arrested for felony sex offenses or other specified offenses.⁵¹ Under the Louisiana law, DNA samples are taken from specified arrestees at the same time that they are fingerprinted and booked.⁵²

Other states are already beginning to pass legislation similar to the Louisiana statute. Kentucky and Mississippi have passed laws that apply to those arrested for sexual felony offenses.⁵³ Connecticut lawmakers are debating legislation requiring DNA sampling of all arrestees.⁵⁴ In New York, Governor George Pataki has proposed expanding his state's DNA database in the same manner.⁵⁵ Other states undoubtedly will consider similar changes because, as one member of the Connecticut legislature stated: "This is one of the many new issues we have to confront given the technological age we're in."⁵⁶

Not surprisingly, many law enforcement officials and prosecutors have supported broadening the collection of DNA samples that are included in DNA databases. The International Association of Chiefs of Police has announced that the

⁴⁶ See Michael Higgins, *Acid Test*, A.B.A. J., Oct. 1999 at 64, 65 ("It's popular now for state officials to call for widening the categories of people who will be tested."); Peter Mantius, *More Data on DNA May Be OK, If the Legislature Approves, State Will Move to Forefront of Identifying Criminals Through Science*, ATL. J. & CONST., Mar. 17, 2000, at D1 (detailing the Georgia legislature's consideration of a bill to require DNA samples from all convicted felons).

⁴⁷ For a more detailed summary of state statutes, see Deborah F. Barfield, *DNA Fingerprinting—Justifying the Special Need for the Fourth Amendment's Intrusion into the Zone of Privacy*, 6 RICH. J.L. & TECH. 27-28 nn.11-27 and accompanying text.

⁴⁸ See Mark Hansen, *Banking on DNA: Prosecutors Hail Broadening Collections; Others See Privacy Violations*, A.B.A. J., Aug. 1999, at 27.

⁴⁹ See *id.*

⁵⁰ See Donnelly & Friedman, *supra* note 34, at 939 n.29.

⁵¹ LA. REV. STAT. ANN. § 15:609 (West 1999).

⁵² *Id.*

⁵³ See KY. REV. STAT. ANN. §17.170 (Michie 1996 & Supp. 1999); MISS. CODE ANN. § 45-33-15(3) (1999 & Supp. 1999).

⁵⁴ See Daniela Altimari, *Panel Reviews DNA Proposal*, HARTFORD COURANT, Mar. 14, 2000, at A3.

⁵⁵ See *DNA Sampling, Don't Expand State Database*, SYRACUSE HERALD-J., Feb. 28, 2000, at A6; Lewine, *supra* note 26, at 18.

⁵⁶ See Altimari, *supra* note 54, at A3.

organization supports the passage of federal legislation to require that DNA samples be taken from every person arrested in connection with any crime, whether a petty theft or a murder.⁵⁷ The Commissioner of the New York City Police Department has proposed that DNA be collected from every arrested person, regardless of the crime charged.⁵⁸ Others have gone to the extreme of suggesting that DNA samples be taken from every child at birth.⁵⁹

On the other side of the spectrum, the Associate Director of the American Civil Liberties Union (ACLU) condemned the idea of requiring DNA samples from arrestees, commenting: "It's indeed a brave new world. We're talking about people who are accused of a crime, but they have not yet had their day in court. A sizable number of them will never be convicted."⁶⁰ The ACLU has announced plans to challenge the constitutionality of the Louisiana law if and when it is implemented.⁶¹

II. ANALYSIS

DNA analysis has become a powerful tool in solving crimes, both in obtaining convictions and in exonerating suspects.⁶² In order to optimize the effectiveness of DNA databases as a tool for law enforcement, databases should be inclusive to the fullest extent permissible under the Constitution.⁶³

The basic Fourth Amendment test for whether a search and seizure is reasonable was outlined by the Supreme Court in *Katz v. United States*.⁶⁴ Under *Katz*, a search is defined as "any governmental intrusion into an area where an individual has a reasonable expectation of privacy."⁶⁵

The Supreme Court has made clear that a blood test is considered to be a search, and therefore subject to the limitations of the Fourth Amendment.⁶⁶ The Court has held further that analysis of the biological samples constitutes a separate search, beyond the collection of the sample.⁶⁷ Whether a blood test and analysis, as a search, is reasonable under the Fourth Amendment is determined by balancing the

⁵⁷ Paul Nowell, *Police Urge Mandatory DNA Samples*, AP ONLINE, Nov. 4, 1999, available at 1999 WL 28135993.

⁵⁸ See Hansen, *supra* note 48, at 26.

⁵⁹ *Id.* at 27.

⁶⁰ See Nowell, *supra* note 57.

⁶¹ See Hansen, *supra* note 48, at 27.

⁶² See *infra* notes 110-59 and accompanying text.

⁶³ States may choose to place further limitations on the collection, use, and storage of DNA fingerprints, based on their state constitution; however, this Note will focus solely on federal constitutional limits.

⁶⁴ 389 U.S. 347 (1967).

⁶⁵ *Id.* at 511.

⁶⁶ See *Schmerber v. California*, 384 U.S. 757, 771-72 (1966).

⁶⁷ See *Skinner v. Ry. Labor Executives' Ass'n*, 489 U.S. 602, 618 (1989).

individual's privacy interest against the government's interest in conducting the search.⁶⁸

In the first case to consider the constitutionality of mandatory DNA sampling for nonviolent offenders, the Fourth Circuit ruled that the Fourth Amendment is not violated when blood samples are taken from convicted felons in order to analyze the felons' DNA for inclusion in a state police database.⁶⁹ Similarly, both federal and state courts in Washington have also determined that states may require convicted felons to submit to blood tests in order to include their DNA fingerprints in state databases.⁷⁰ Other courts have reached similar conclusions.⁷¹ Despite agreement on the basic standard that applies to mandatory DNA sampling, and continued judicial support for DNA databases, courts have varied in their interpretation of the standard to be applied in determining the constitutionality of DNA fingerprinting of prisoners.⁷²

A. *Prisoners Have a Lower Expectation of Privacy*

The Supreme Court's rulings on searches of prisoners must be factored into the Fourth Amendment analysis of this issue. The Court has held repeatedly that prisoners have a much lower expectation of privacy than the general population. For example, the Court has ruled that routine shakedowns of prisoners are reasonable because a prisoner has no reasonable expectation of privacy in his or her cell.⁷³ The Court has also held that routine, visual, body cavity searches of prisoners are not unreasonable.⁷⁴

Prisoners may be convicted offenders or pretrial detainees. The Court's rulings on the reduced rights of prisoners do not create a distinction between the two. The

⁶⁸ *See id.*

⁶⁹ *See Jones v. Murray*, 962 F.2d 302 (4th Cir. 1992), *cert. denied*, 506 U.S. 977 (1992).

⁷⁰ *See Ryncarz v. Eikenberry*, 824 F. Supp. 1493 (E.D. Wash. 1993); *State v. Olivas*, 856 P.2d 1076 (Wash. 1993).

⁷¹ *See Rise v. Oregon*, 59 F.3d 1556, 1562 (9th Cir. 1995), *cert. denied*, 517 S. Ct. 1160 (1996) (upholding Oregon statute requiring blood tests from convicted sex offenders and murderers); *Vanderlinden v. Kansas*, 874 F. Supp. 1210, 1215 (D. Kan. 1995) (upholding Kansas law requiring blood withdrawal from prisoners); *Sanders v. Coman*, 864 F. Supp. 496, 499 (E.D.N.C. 1994) (dismissing Fourth Amendment action against a North Carolina law for failure to state a claim); *Ryncarz*, 824 F. Supp. at 1499 (upholding Washington law requiring blood withdrawal from prisoners); *People v. Wealer*, 636 N.E.2d 1129, 1132 (Ill. 1994) (holding that the blood testing was minimally intrusive and therefore permissible under Fourth Amendment); *State ex rel. Juvenile Dep't v. Orozco*, 878 P.2d 432, 435 (Ore. 1994) (comparing DNA fingerprints to traditional fingerprints and finding collection permissible); *Olivas*, 856 P.2d at 1088 (upholding Washington's DNA testing statute).

⁷² *See Yee*, *supra* note 45, at 477-78.

⁷³ *See Hudson v. Palmer*, 468 U.S. 517, 523-24 (1984).

⁷⁴ *See Bell v. Wolfish*, 441 U.S. 520, 545 (1979).

primary distinction drawn between convicted offenders and pretrial detainees is that, as part of a conviction, punishment may be imposed.

Constitutional limitations on punishments are imposed by the Eighth Amendment's prohibition against cruel and unusual punishment.⁷⁵ In light of the punitive nature of incarceration for those convicted of crimes, actions imposed upon prisoners who have been convicted of a crime are typically judged under the standards of the Eighth Amendment.⁷⁶

In contrast, the Due Process Clause⁷⁷ controls the analysis of actions imposed upon pretrial detainees.⁷⁸ In order to determine "whether a particular restriction imposed on a pretrial detainee comports with due process, a court must determine whether . . . it is reasonably related to a legitimate, nonpunitive, governmental purpose."⁷⁹

In the case of mandatory DNA sampling, the legitimate governmental purposes are criminal investigation and public safety. The sample is not taken for punitive purposes.⁸⁰ As a result, the Due Process Clause is not violated. The only question remaining, therefore, is whether the search is reasonable under the Fourth Amendment.

Some challenges to mandatory DNA testing have been denied entirely on the theory that prisoners have a lower expectation of privacy.⁸¹ In other cases, outlined below, it has been considered simply as a factor within the analysis.

B. *Special Needs Allow for Greater Governmental Intrusion*

Another line of cases has indicated that the government has greater authority to conduct searches when there is a "special need." Special needs are considered

⁷⁵ "Excessive bail shall not be required, nor excessive fines imposed, nor cruel and unusual punishments inflicted." U.S. CONST. amend. VIII.

⁷⁶ Collette G. Matzzie & Charles Jones, *Prisoners' Rights*, in *Twenty-Second Annual Review of Criminal Procedure: United States Supreme Court and Court of Appeals 1991-92*, 81 GEO. L.J. 1621, 1621 n.2933 (1993).

⁷⁷ U.S. CONST. amend. V ("No person shall . . . be deprived of life, liberty, or property, without due process of law . . ."); U.S. CONST. amend. XIV ("[N]or shall any State deprive any person of life, liberty, or property, without due process of law . . .").

⁷⁸ Matzzie & Jones, *supra* note 76, at 1621 n.2932.

⁷⁹ *Id.* at 1654.

⁸⁰ *Id.* ("The Supreme Court has stated that courts should usually defer to prison officials in determining whether a particular regulation is reasonably related to a legitimate interest rather than punishment."). Based on this line of reasoning, the Court has allowed random shakedown searches of a pretrial detainee's cell. *See Bell v. Wolfish*, 441 U.S. 520, 555-57 (1979).

⁸¹ *See, e.g., Kruger v. Erickson*, 875 F. Supp. 583, 588 (D. Minn. 1995), *aff'd*, 77 F.3d 1071 (8th Cir. 1996) (noting prisoner's diminished expectation of privacy as grounds for upholding search).

when evaluating the governmental interest at stake.

For example, the safety concerns of running a railroad have qualified as a special need allowing for drug testing of railroad employees, despite the intrusion on an individual.⁸² Likewise, the special needs involved in running a school have been deemed sufficient to justify a diminished expectation of privacy for students.⁸³

The special needs of law enforcement have also been recognized as providing adequate justification for greater intrusions upon individual privacy.⁸⁴ Similarly, the special needs of safely operating a prison have been found to allow for mandatory, non-consensual testing of prisoners for AIDS.⁸⁵

The Fourth Circuit expressly rejected the notion that special needs beyond the general needs of law enforcement must be demonstrated to allow certain searches, arguing that the public safety needs of law enforcement were sufficient.⁸⁶ Nevertheless, other courts have insisted upon a stricter standard for law enforcement than for other governmental actors, requiring that the government demonstrate a special need beyond the general needs of law enforcement.⁸⁷

Even applying this stricter standard for the special needs test, however, the Supreme Court of Washington ruled that the state's statute requiring involuntary DNA tests of felons, in order to establish a DNA database for use in future prosecution of recidivist acts, did not violate the Fourth Amendment's prohibition on unreasonable search and seizure.⁸⁸ Two more recent cases also have upheld state statutes authorizing the collection of DNA samples from convicted felons.

In *Roe v. Marcotte*,⁸⁹ the Second Circuit ruled that a Connecticut man jailed for a sexual offense could be compelled to provide a blood sample.⁹⁰ While the Fourth Circuit's decision in *Jones v. Murray* relied on the diminished privacy rights of convicted persons,⁹¹ the Second Circuit relied upon the special needs exception and ruled that the governmental interest in law enforcement outweighed the intrusion on individual privacy.⁹²

Similarly, the Massachusetts Supreme Judicial Court recently upheld the

⁸² *Skinner v. Ry. Labor Executives' Ass'n*, 489 U.S. 602, 618 (1989).

⁸³ *See New Jersey v. T.L.O.*, 469 U.S. 325 (1985).

⁸⁴ *See Mich. Dep't of State Police v. Sitz*, 496 U.S. 444 (1990) (allowing for roadway checkpoints to deter drunk driving); *United States v. Martinez-Fuerte*, 428 U.S. 543 (1976) (allowing permanent immigration checkpoints at national borders).

⁸⁵ *See Dunn v. White*, 880 F.2d 1188 (10th Cir. 1989).

⁸⁶ *See Jones v. Murray*, 962 F.2d 302 (4th Cir. 1992), *cert. denied*, 506 U.S. 977 (1992).

⁸⁷ *See, e.g., State v. Olivas*, 856 P.2d 1076, 1088 (Wash. 1993).

⁸⁸ *Id.* at 1086.

⁸⁹ 193 F.3d 72 (2d Cir. 1999).

⁹⁰ *Id.* at 74.

⁹¹ *See supra* notes 73-76 and accompanying text.

⁹² *Marcotte*, 193 F.3d at 82.

constitutionality of its state's DNA database in *Landry v. Attorney General*.⁹³ The Massachusetts court, like the Second Circuit, ruled that "the high government interest in a particularly reliable form of identification outweighs the minimal intrusion of a pinprick."⁹⁴

To date, all of the case law on DNA databases has involved people already convicted of a crime; however, the special needs analysis can be extended to the collection of DNA samples from arrestees. The Massachusetts court in *Landry* compared the creation of a DNA fingerprint to the taking and storing of fingerprints, photographs, and other criminal records.⁹⁵ Meanwhile, the Second Circuit in *Roe v. Marcotte* identified some of the special needs that supported the collection of DNA fingerprints, including their usefulness in criminal investigation and the reliability of identification based on such DNA collections.⁹⁶ These same factors should apply to the collection of samples from arrestees.

Some commentators have expressed additional concern over the lack of a requirement for individualized suspicion in requirements for DNA testing of prisoners and arrestees.⁹⁷ However, the case law makes clear that, even without a particularized suspicion, a strong government interest can outweigh some intrusion on individual privacy.⁹⁸

C. *Applying the Test*

The United States Supreme Court has stated that in order to determine whether a search is reasonable, a court "must consider the scope of the particularized intrusion, the manner in which it is conducted, the justification for initiating it, and the place in which it was conducted."⁹⁹ This standard must be applied to each component of the process in collecting a DNA sample for inclusion in a DNA database.

⁹³ 709 N.E.2d 1085 (Mass. 1999).

⁹⁴ *Id.* at 1091.

⁹⁵ *Id.* at 1092.

⁹⁶ *Marcotte*, 193 F.3d at 79.

⁹⁷ See, e.g., Sheryl H. Love, Note, *Allowing New Technology to Erode Constitutional Protections: A Fourth Amendment Challenge to Non-Consensual DNA Testing of Prisoners*, 38 VILL. L. REV. 1617, 1626-31 (1993).

⁹⁸ See *Mich. Dep't of State Police v. Sitz*, 496 U.S. 444 (1990) (allowing for roadway checkpoints to deter drunk driving); *Skinner v. Ry. Labor Executives' Ass'n*, 489 U.S. 602, 618 (1989) (allowing drug testing of railroad employees); *United States v. Martinez-Fuerte*, 428 U.S. 543 (1976) (allowing permanent immigration checkpoints at borders); *Dunn v. White*, 880 F.2d 1188 (10th Cir. 1989) (allowing non-consensual AIDS testing of prisoners).

⁹⁹ *Bell v. Wolfish*, 441 U.S. 520, 559 (1979).

1. The Intrusion Upon Those Sampled

First, the Fourth Amendment standard must be applied to the actual taking of the blood sample. While not yet convicted, when arrestees are tested they are prisoners or pretrial detainees, and as such, their reasonable expectation of privacy is lowered.¹⁰⁰ Furthermore, the taking of blood for testing is considered a relatively minor intrusion.¹⁰¹

Next, the intrusion caused by the analysis of the sample must be evaluated. The DNA fingerprinting of a blood sample is considered analogous to the analysis of a dermatoglyphic fingerprint.¹⁰² The DNA fingerprint maps genes and combinations of genes that do not code for any genetic trait.¹⁰³ Even critics of DNA databases have conceded as much.¹⁰⁴ Therefore, the intrusion of analyzing the DNA sample is no more significant than the analysis of a thumbprint.

Moreover, even in the case of arrestees, police will usually collect and analyze DNA samples as a routine part of the investigation.¹⁰⁵ In fact, police are being trained to look for and rely upon DNA evidence from a crime scene whenever possible, both because of its accuracy and because of potential problems with other evidence.¹⁰⁶

Next, the storage of the DNA fingerprint must be considered. This storage creates no further intrusion on the individual and is comparable to the storage of photographs or fingerprints. Traditional fingerprint databases store records from a wide variety of sources, including federal employees and the military. Therefore, a significant proportion of the records are not those of convicted offenders. While some commentators have worried that information in DNA databases simply invites unauthorized use or misuse by genetic researchers and others,¹⁰⁷ this fear is misplaced because the data stored in DNA databases are, by design, not helpful for

¹⁰⁰ See *supra* notes 73-81 and accompanying text.

¹⁰¹ See *Schmerber v. California*, 384 U.S. 757, 771 (1996) ("Such tests are a commonplace in these days of periodic physical examinations and experience with them teaches that the quantity of blood extracted is minimal, and that for most people the procedure involves virtually no risk, trauma, or pain.").

¹⁰² See KEITH INMAN & NOAH RUDIN, *AN INTRODUCTION TO FORENSIC DNA ANALYSIS* 6 (1997).

¹⁰³ See *id.* at 7; JoAnn Maric Longobardi, *DNA Fingerprinting and the Need for a National Data Base*, 17 FORDHAM URB. L.J. 323 (1989).

¹⁰⁴ See E. Donald Shapiro & Michelle L. Weinberg, *DNA Data Banking: The Dangerous Erosion of Privacy*, 38 CLEV. ST. L. REV. 455, 470 n.97 (1990).

¹⁰⁵ See PRACTICAL ASPECTS OF RAPE INVESTIGATION: A MULTIDISCIPLINARY APPROACH 45-47 (Robert R. Hazelwood and Ann Wolbert Burgess eds., 2d ed. 1995).

¹⁰⁶ *Id.* at 46 ("Court decisions regarding the rights of defendants have made it incumbent on the law enforcement community to constantly improve its ability to make use of physical evidence in court.").

¹⁰⁷ See Markett, *supra* note 4, at 209.

genetic research.¹⁰⁸

Finally, the intrusion created by the storage of the actual blood sample must be considered. Many commentators have found the storage of the blood sample to be problematic as a continuing, and potentially greater, violation of privacy.¹⁰⁹ Concerns over the storage of the sample are based largely on the potential for the misuse of the sample to access genetic information regarding the health of the individual.

2. The Government's Interest

The intrusion upon the individual must be weighed against the government's interest in including the DNA sample in the database. The government's interest in collecting the sample, analyzing it, and storing the DNA fingerprint is threefold. First, the database can be used to solve past cases which might otherwise remain unsolved. Second, the database can be used to solve future crimes. Third, the database can be used to exonerate suspects and those wrongly incarcerated.¹¹⁰

Police are now looking to DNA databases to provide new leads in "old and cold" cases.¹¹¹ Many cases that have been languishing in police files for years with few leads and no real suspects could be solved through simple searches of DNA databases.

For example, based on a search of its DNA database, the state of Florida arrested Anthony Leonard Orick in June 1999 for six sexual assaults in Jacksonville between 1995 and 1998.¹¹² Arrests in older cases are not only rewarding for the police who investigate them,¹¹³ but of utmost importance to the victims of these crimes. Carol Seivers' daughter was murdered in 1994, and in 1996 a match from a DNA database search led to the conviction of Shermaine Jackson for the crime.¹¹⁴ As Seivers stated: "There are many, many parents and loved ones who are waiting to hear a knock on the door or the phone ringing, saying, 'We've got that person.'"

¹⁰⁸ See *supra* notes 14-25 and accompanying text.

¹⁰⁹ See Love, *supra* note 97, at 1626; Shapiro & Weinberg, *supra* note 104, at 470; see also Sarah Gill, *The Military's DNA Registry: An Analysis of Current Law and a Proposal for Safeguards*, 44 NAVAL L. REV. 175 (1997) (discussing the military's retention of DNA samples for use in identifying casualties of war).

¹¹⁰ See EDWARD CONNORS ET AL., U.S. DEPT. OF JUSTICE, CONVICTED BY JURIES, EXONERATED BY SCIENCE: CASE STUDIES IN THE USE OF DNA EVIDENCE TO ESTABLISH INNOCENCE AFTER TRIAL, at xxvi (1996) ("DNA analysis is a powerful and often necessary tool for establishing *the presence or absence* of someone at a crime scene.").

¹¹¹ *How DNA Fights Crime*, *supra* note 35, at A1.

¹¹² See *id.*

¹¹³ See *id.* (quoting the director of Florida's DNA database lab as saying, "I really have the greatest job in the world. I actually break the cases open.").

¹¹⁴ See *id.*

We are so thankful to God that the technology is available."¹¹⁵ Debbie Smith was raped outside her home in 1989, but police were unable to find any leads on who the attacker may have been.¹¹⁶ Finally, in 1995, a DNA database search identified the attacker as a man who has since been arrested for unrelated crimes. Smith stated: "[DNA] gave me my life back. I don't have to live in fear anymore."¹¹⁷

DNA databases can also be used to solve future crimes. Jackie Crumity served time for a 1979 rape.¹¹⁸ Before his release from prison in 1992, a biological sample was taken from him, and his DNA fingerprint was entered into Virginia's DNA database.¹¹⁹ Four months later, a woman was brutally attacked and raped in her home.¹²⁰ Police had no physical description of the attacker and no fingerprints, but a small sample of semen found at the scene was matched to a sample in the DNA database.¹²¹ That sample provided police with a suspect: Jackie Crumity.¹²² Crumity is now serving a sentence of life plus thirty years.¹²³

DNA databases can also serve to exclude and exonerate suspects.¹²⁴ The use of DNA database evidence early in an investigation can exclude suspects and therefore save time and money "by focusing in more fruitful directions."¹²⁵ Although very little, if any, press emerges when suspects are exonerated early on in the investigation, it is a frequent occurrence when DNA testing is used. FBI statistics indicate that in each year since 1989, the primary suspect in twenty-five percent of sexual assault cases has been excluded based on forensic DNA testing.¹²⁶ State crime laboratories have estimated that thirty percent of the DNA tests conducted result in negative matches, exonerating innocent suspects.¹²⁷

DNA testing and databases can also be used to clear individuals currently under suspicion by finding links to other crime scenes. Therefore, even if police are unable to identify a perpetrator, the information can be used to combine leads from several cases, which may in turn exclude certain suspects.

¹¹⁵ *Id.*

¹¹⁶ See Keith Bredemier, *In Virginia, Freedom From Fear for Crime Victims, Relief for Families*, WASH. POST, July 7, 1999, at A14.

¹¹⁷ *Id.*

¹¹⁸ See *id.*

¹¹⁹ See *id.*

¹²⁰ See *id.*

¹²¹ See *id.*

¹²² See *id.*

¹²³ See *id.*

¹²⁴ See CONNORS, *supra* note 110, at 4 ("DNA identification is not only a way of securing conviction; it is also a way of excluding suspects who might otherwise be falsely charged with and convicted of serious crimes.").

¹²⁵ *Id.* at 29.

¹²⁶ See *id.* at xxviii.

¹²⁷ Tucker, *supra* note 15, at 120. Statistics from Scotland Yard in the United Kingdom show similar percentages of exonerated suspects.

Defense attorneys have been supportive of DNA databases because of their power to exclude suspects.¹²⁸ While defense attorneys may attack DNA evidence and DNA databases in court, “[i]t is interesting to observe how quickly some DNA evidence opponents embrace the science when it benefits certain defendants’ interests but how defensive they become when the evidence points *toward* other defendants.”¹²⁹

DNA databases have also been used to exonerate innocent people who have been incarcerated for crimes.¹³⁰ Keith Brown was arrested for rape in 1991 and sentenced to thirty-five years in prison.¹³¹ Yet in 1997, DNA from the crime scene was matched to a man who had served prison time based on a conviction for drugs and aggravated assault.¹³² The recently released man had been required to provide a blood sample as a condition prior to his release.¹³³

Another case out of Oklahoma demonstrates the value of DNA databases in overcoming problems of false testimony. In 1988, two men were convicted of assaulting and strangling a young woman, largely based on the testimony of Glen Gore.¹³⁴ Gore was later arrested on unrelated charges of burglary, kidnapping, and shooting.¹³⁵ The DNA sample he was required to provide while in jail was entered into the state’s database and later matched to the crime scene in the original case, exonerating the two men he himself had helped to wrongly convict.¹³⁶

DNA databases also have the capacity to solve future crimes. A study done by the Commonwealth of Virginia showed that of all persons released from prisons in eleven states in 1983, an estimated 62.5% were arrested for a felony or serious misdemeanor within three years, and an estimated 22.7% of all prisoners were rearrested for a violent offense within three years of their release.¹³⁷

¹²⁸ See *How DNA Fights Crime*, *supra* note 35, at A1 (citing a public defender as saying that “as a defense attorney and a citizen, [he finds it] intolerable to have such a powerful crime-fighting tool fall short of its promise”); Charlie Goodyear & Erin Hallissy, *The Other Side of DNA Evidence: An Innocent Man is Freed*, S.F. CHRON., Oct. 19, 1999, at A10 (quoting defense attorney Barry Scheck stating: “With advanced technology that we have now, there’s so much you can do to catch the guilty and exonerate people that shouldn’t even be arrested in the first place.”).

¹²⁹ CONNORS, *supra* note 110, at xxi.

¹³⁰ See generally *id.*

¹³¹ See *Inmate Released After DNA Analysis, A North Carolina Man Was Cleared of Rape as a Florida Man Was Charged*, ORLANDO SENTINEL, July 8, 1997, at C6.

¹³² See *id.*

¹³³ See *id.*

¹³⁴ See *Escaped Suspect Turns Himself In*, AP ONLINE, Apr. 21, 1999, available at 1999 WL 17058911.

¹³⁵ See *id.*

¹³⁶ See *id.*

¹³⁷ See Yee, *supra* note 45, at 476.

Ninety-seven percent of cases in which DNA is used involve murder or rape,¹³⁸ the most violent of crimes. Yet because of the circumstances of these particular crimes, victims may not be able to provide strong, reliable descriptions and identifications of their attackers. In cases of murder, the victim is unable to provide any clues. In cases of rape, victims are often too traumatized to provide accurate descriptions.

As stated by Paul Ebert, the Commonwealth Attorney for Prince William County, Virginia, following the conviction of Jackie Crumity: "It shows the value of DNA technology [in sexual assault cases]. They're awfully hard to prove. [The victims are] traumatized witnesses. Their testimony is subject to attack. Oftentimes [the crime] happens at night."¹³⁹

The increased use of DNA evidence would lessen the dependence on eyewitness testimony and be far more reliable.¹⁴⁰ Studies have shown that eyewitness testimony is particularly unreliable.¹⁴¹ In a review of twenty-eight cases of people incorrectly convicted of sexual assault and later exonerated by DNA evidence, the Department of Justice determined that every case, except the six homicides included in the study, involved significant reliance on eyewitness testimony of the victim.¹⁴²

The stories of Clyde Charles and John Davis vividly demonstrate the superiority of DNA identification over eyewitness identification. Clyde Charles was exonerated from a 1981 rape after a DNA test identified Charles' brother as the rapist.¹⁴³ The two brothers, though not twins, had nearly identical facial features—so similar that a family friend who testified at the trial misidentified a photo of one brother at the trial.¹⁴⁴

Even seemingly "open and shut" cases of eyewitness identification have proven to be incorrect. Carol Sanders identified John Davis, her ex-boyfriend whom she had known for four years, as the man who broke into her home, slipped a pillow case over her face, then brutally beat and raped her.¹⁴⁵ While police were cautious,

¹³⁸ *Id.* at 477-78.

¹³⁹ Bredemier, *supra* note 116, at A14.

¹⁴⁰ See KIRBY, *supra* note 9, at xv.

¹⁴¹ See Chris Roberts, *Panel Studies Use of DNA in Inmate Appeals*, SAN DIEGO UNION-TRIB., May 8, 1999, at A10 (noting that DNA evidence has disproved eyewitness accounts on occasion).

¹⁴² See CONNORS, *supra* note 110, at 14.

¹⁴³ See Derrick Nunnally, *DNA Points at Brother of Free Man: La. Rape Case Takes Surprising Turn in Va.*, BATON ROUGE SUNDAY ADVOC., Apr. 9, 2000, at 1A.

¹⁴⁴ See *id.*

¹⁴⁵ See LEVY, *supra* note 26, at 90-92.

Sanders was adamant that she had gotten a clear view of her attacker.¹⁴⁶ Furthermore, Davis had a long history of abusive acts against Sanders¹⁴⁷ and his only defense was his mother's testimony that he had been at home asleep at the time of the attack.¹⁴⁸ The case looked to be an easy one, yet DNA tests demonstrated that someone other than Davis was actually the perpetrator.¹⁴⁹ The attacker turned out to be another acquaintance of Sanders, a man who looked remarkably like Davis.¹⁵⁰

Solving particularly violent crimes such as murder and rape are typically top priority for police and the public, and DNA databases are particularly valuable tools in these cases.¹⁵¹ As explained by Carl Selavka, director of the Massachusetts State Police crime lab: "In general, a principle of forensic science is that the more force is used in the commission of a crime, the more likely it is that a significant detectable amount of DNA will be transferred among the suspects and victims."¹⁵² Moreover, the early use of DNA evidence and DNA databases can help to overcome a rush to judgment in these most violent cases, which are typically high profile cases. Its use not only assists law enforcement, but protects innocent people from enduring long investigations. As expressed by a former prosecutor: "The greatest friend of the falsely accused is DNA testing at the beginning of a criminal investigation; it clears far more people than post-conviction tests. Early genetic testing can spare suspects months and years spent in jail and under suspicion by their communities."¹⁵³

A study conducted by the United States Department of Justice helps to demonstrate another way in which the use of DNA databases can help protect individuals by excluding innocent people early on in the investigatory process. In fifteen of the twenty-six cases, the later-exonerated defendant was known to the police prior to their arrest, usually because of a criminal record.¹⁵⁴

This technique of "rounding up the usual suspects" is common in criminal

¹⁴⁶ See *id.* at 92-94.

¹⁴⁷ See *id.* at 90-91.

¹⁴⁸ See *id.* at 94-95.

¹⁴⁹ See *id.* at 96.

¹⁵⁰ See *id.* at 96-101.

¹⁵¹ See Yee, *supra* note 45, at 490 ("It has already proven to be a vastly efficient and accurate tool in solving sex and other violent crimes. The existence of such data banks may even provide deterrence against these crimes as knowledge of its use proliferates and becomes even more publicly acknowledged."); John Laidler, *DNA Samples Taken from Inmates*, B. GLOBE, Jan. 2, 2000, at 8 (quoting the director of the Massachusetts State Police crime lab: "The kind of crimes this will help solve the most are those involving sexual assaults and rapes.").

¹⁵² *Id.*

¹⁵³ LEVY, *supra* note 26, at 197.

¹⁵⁴ See CONNORS, *supra* note 110, at 14.

investigations, largely because of high recidivism rates,¹⁵⁵ but subjects those with previous police involvement to closer scrutiny. By using a DNA database search early on, these people, if innocent, will be cleared from suspicion and spared the harassment of further investigation. Furthermore, the police will save money and valuable time by pointing their investigation in better directions.

The existence of DNA evidence also provides police investigators with a way to secure a conviction that previously would have been difficult or impossible without incriminating statements from the accused. Police interrogations of suspects have been criticized for their deceit and other tactics.¹⁵⁶ Scholars have expressed concern over the reliance on confessions and the consequent risks of false confessions.¹⁵⁷ On the other hand, the inability to secure a confession can prevent conviction or can lead to conviction of an innocent person.¹⁵⁸ The utilization of DNA evidence may allow police to re-examine their interrogation tactics, making the confession far less of a necessity for conviction and therefore helping to prevent overreaching by law enforcement.¹⁵⁹

3. The Controversy Over DNA Use

In the news and celebrated trials, there has been considerable controversy over the use and accuracy of DNA fingerprints.¹⁶⁰ The controversy, however, is not over the science of DNA fingerprinting and whether DNA serves as a unique identifier.¹⁶¹ Rather, the current controversy stems from debates over the accuracy and competence of testing laboratories and over how the evidence of a match from

¹⁵⁵ By one estimate, two-thirds of rapists are repeat offenders, and commit rape an average of eight to ten times. See Graham Brink, *Bill Would Add Burglars to DNA List*, ST. PETERSBURG TIMES, Mar. 13, 2000, at 1B.

¹⁵⁶ See LEVY, *supra* note 26, at 1-3.

¹⁵⁷ See Richard A. Leo & Richard J. Ofshe, *The Consequences of False Confessions: Deprivations of Liberty and Miscarriages of Justice in the Age of Psychological Interrogation*, 88 J. CRIM. L. & CRIMINOLOGY 429 (1998); Richard J. Ofshe & Richard A. Leo, *The Decision to Confess Falsely: Rational Choice and Irrational Action*, 74 DENV. U. L. REV. 979; cf. Paul G. Cassell, *Protecting the Innocent from False Confessions and Lost Confessions—and from Miranda*, 88 J. CRIM. L. & CRIMINOLOGY 497 (1998), 501 (attempting to put problem of false confessions into perspective).

¹⁵⁸ See Paul G. Cassell, *The Guilty and the "Innocent": An Examination of Alleged Cases of Wrongful Conviction from False Confessions*, 22 HARV. J.L. & PUB. POL'Y 523, 526 (1999) ("The innocent are also jeopardized when police fail to obtain a truthful confession from the true perpetrator of a crime.").

¹⁵⁹ See LEVY, *supra* note 26, at 1-3.

¹⁶⁰ For a summary of the historical debate and controversy over the use of DNA fingerprints in the criminal justice system, see LEVY, *supra* note 26, at 105-24.

¹⁶¹ See Tucker, *supra* note 15, at 122.

a DNA database should be used in criminal prosecution.¹⁶² Debates over the courtroom presentation of DNA evidence have focused on the calculations of probability and how the evidence is presented by expert witnesses.¹⁶³

The first major case to challenge the accuracy of DNA evidence was a 1987 murder case in New York.¹⁶⁴ Jose Castro was charged in the stabbing death of a woman and her two-year old daughter.¹⁶⁵ Attorneys Peter Neufeld and Barry Scheck challenged the DNA analysis of a speck of blood found on the defendant's watch.¹⁶⁶ The defense attorneys argued that the DNA technology was too uncertain and that the lab work in the case was sloppy.¹⁶⁷ The defense team was successful in excluding evidence linking the blood from the watch to the victim.¹⁶⁸

While the defense seemingly won the battle in the Castro case, the results of the case may actually support the use of DNA evidence. Defense attorneys argue that the power of DNA evidence is so strong that unless the technology can be proven to a perfection, it should not be allowed as evidence. The Castro case demonstrates that if the circumstances warrant, the defense can successfully argue for the exclusion of the evidence on this basis.¹⁶⁹ As stated by Castro's attorney Peter Neufeld: "The attitude up to that point had been that DNA fingerprinting was infallible. Juries were awed. As one juror put it, 'You can't argue with science.' We decided to show you could."¹⁷⁰ These days, a defense attorney cannot only argue with science, but as one supporter of DNA fingerprinting argued, "The chances of an innocent person being implicated are next to nil, but the chances of a guilty person becoming falsely exonerated are reasonably high."¹⁷¹

The Castro case also demonstrates that challenges to DNA evidence can be successful even if the evidence is right.¹⁷² Even after the successful exclusion of the DNA evidence linking Castro to the victims, Castro pled guilty to the crimes charged.¹⁷³ Castro further admitted that the blood on his watch had been that of

¹⁶² See LEVY, *supra* note 26, at 106, 195.

¹⁶³ See Donnelly & Friedman, *supra* note 34, at 939.

¹⁶⁴ See LEVY, *supra* note 26, at 195; Tucker, *supra* note 15, at 125.

¹⁶⁵ See *id.*

¹⁶⁶ See *id.*

¹⁶⁷ See *id.*

¹⁶⁸ See *id.*

¹⁶⁹ See generally LEVY, *supra* note 26, at 157-88 (detailing the controversy over DNA evidence in the 1995 murder trial of O.J. Simpson).

¹⁷⁰ *Id.*

¹⁷¹ Tucker, *supra* note 15, at 126-27.

¹⁷² In much the same way, the O.J. Simpson case demonstrated that the defense can successfully argue that the process of DNA collection and analysis was flawed.

¹⁷³ See *id.* at 126. While the Author is not so naïve as to believe that innocent people never plead guilty, it seems less likely that a well-represented innocent defendant would plead guilty to such a serious crime in spite of the successful exclusion of such powerful evidence in the case.

the victim.¹⁷⁴

The third interesting point illustrated by the Castro case is how defense attorneys' opinions of DNA evidence change depending on whether the evidence is being used to incriminate or exculpate.¹⁷⁵ For example, attorney Barry Scheck helped to successfully challenge DNA evidence in the Castro case and again in the O.J. Simpson case. Yet Scheck has also led the effort to use DNA evidence to exonerate those falsely imprisoned.¹⁷⁶

The fact that criminal defense lawyers are now calling for greater utilization of DNA analysis¹⁷⁷ demonstrates the acceptance of its general accuracy and value.¹⁷⁸ Concerns now have shifted to ensuring proper, accurate DNA analysis in individual cases.

The strength of DNA evidence is also demonstrated by the effect it has had on courtroom strategy in cases where it is used. "The focus shifts from whether it is the defendant's blood or semen at the crime scene to how it got there."¹⁷⁹ Defendants are now more likely to argue that any sexual contact was consensual or that they were framed, rather than to deny the presence of their semen or blood.¹⁸⁰

Some have argued that the privacy of DNA profiles is "inherently personal, intimate, and sensitive,"¹⁸¹ however, the information actually analyzed and stored is no more "intimate" than a photograph or a fingerprint in that it is merely used as an identifier. Only if the sample is used incorrectly does intimate information of this type warrant the concerns asserted by critics. Yet this is no different from many means of identification used in investigation. A person's social security number may be used to identify and to investigate them. That same number can provide sensitive information about a person who is unrelated to the criminal investigation. While there is a potential for misuse, one should not presume abuse

¹⁷⁴ See LEVY, *supra* note 26, at 69.

¹⁷⁵ See *id.* at 57 ("Defense lawyers could pick and choose between those cases in which they liked DNA results and those in which they did not, relying on favorable DNA results and attacking DNA tests that implicated their clients.").

¹⁷⁶ See Erin Hallissy, *Study Shows How 62 Innocent Men Were Found Guilty, Authors Call for More DNA Testing*, S.F. CHRON., Feb. 16, 2000, at A2; Mark Hansen, *DNA Bill of Rights, Activists Call for Standards on Inmate Testing, Evidence Preservation*, A.B.A. J., Mar. 2000, at 30; Matt Pommer, *Attorneys Urge New DNA Laws in Wisconsin*, MADISON CAPITAL TIMES, Mar. 2, 2000, at 2A.

¹⁷⁷ See Joe Gyan, Jr., *Safeguards Demanded for Justice*, BATON ROUGE ADVOC., Feb. 26, 2000, at A1 (discussing the National Association of Criminal Defense Lawyers' new "innocence agenda," which calls for, among other things, easier access to DNA testing).

¹⁷⁸ See LEVY, *supra* note 26, at 56 (quoting the Congressional Office of Technology Assessment's 1990 report on DNA fingerprinting, "[Q]uestions about the validity of DNA typing are 'red herrings that do the courts and the public a disservice.'")

¹⁷⁹ LEVY, *supra* note 26, at 190.

¹⁸⁰ See *id.*

¹⁸¹ Yee, *supra* note 45, at 480-81.

will be the norm.

The Virginia DNA database law provides criminal penalties for the unauthorized dissemination of information contained in the DNA database and for the receipt, use, or attempted use of such information knowing that the dissemination, receipt, or use is for a purpose other than as authorized by law.¹⁸² Many other state DNA database statutes contain similar provisions,¹⁸³ and these help to alleviate concerns about their use.¹⁸⁴ The Massachusetts Supreme Judicial Court cited similar provisions in the Massachusetts law in ruling that the potential for misuse of the data was merely speculative.¹⁸⁵

"Inmates who give blood or saliva samples for DNA identification analysis should have the expectation that the analysis be restricted to law enforcement personnel for use in the pursuit of legitimate law enforcement objectives."¹⁸⁶ Even without this type of safeguard written explicitly into the law, a state could apply its statute protecting against the disclosure of public records to information in the DNA database.¹⁸⁷

On the federal level, the DNA Identification Act of 1994 provides that the results of DNA tests performed for a federal law enforcement agency may be disclosed only to criminal justice agencies for law enforcement identification purposes, in a judicial proceeding, for criminal defense purposes, for a population statistic database, for identification and research protocol development, or for quality control purposes.¹⁸⁸

The FBI conditions participation in the national database on a state's adherence to the privacy safeguards set up by Congress and the FBI.¹⁸⁹ The federal statute "provides stiff penalties for misuse of genetic information."¹⁹⁰

Computerized storage of DNA fingerprints presents little or no concern to security because the information that is stored does not provide any significant genetic information beyond identity.¹⁹¹ Furthermore, in the federal database, stored

¹⁸² See VA CODE ANN. § 19.2-310.6 (Michie 1990). The statute does allow for the sample to be used to create statistical data provided that no identifying information about the subject is included. The sample may also be used to update or to validate the original DNA fingerprint analysis. See *id.* at § 19.2-310.4.

¹⁸³ See, e.g., FLA. STAT. ANN. § 943.325 (West Supp. 1995).

¹⁸⁴ See Yee, *supra* note 45, at 481.

¹⁸⁵ See Landry v. Attorney Gen., 709 N.E.2d 1085, 1096 (Mass. 1999).

¹⁸⁶ Yee, *supra* note 45, at 481.

¹⁸⁷ See *id.* at 485.

¹⁸⁸ See 42 U.S.C. § 14133(b)(1) & (2) (1995).

¹⁸⁹ See Markett, *supra* note 4, at 211; see also 42 U.S.C. §§ 14132(b) & (c) (1994).

¹⁹⁰ See Markett, *supra* note 4, at 211; see also 42 U.S.C. § 14132 (c)(2) (1994) (providing \$100,000 penalty for intentional unauthorized acquisition of genetic material or data).

¹⁹¹ See Yee, *supra* note 45, at 483.

records are identified only by a code which must then be compared to another database to match the sample to a suspect's name and other identifying data.

III. RECOMMENDATIONS

A. *DNA fingerprints created in the course of an ordinary investigation should be entered into DNA databases.*

As techniques for extracting and analyzing DNA from crime scene evidence continue to improve, the use of DNA evidence will only become more common. As the use of DNA evidence becomes more common, more DNA samples will be taken from suspects and arrestees as a routine part of criminal investigation. If samples have been collected as part of the investigation of a crime, their collection and analysis is based on probable cause and is therefore constitutionally valid under the Fourth Amendment. Once a sample is taken for investigative purposes, the additional intrusion in maintaining the DNA fingerprint in a database is minimal.

B. *States should collect DNA samples from arrestees and include DNA fingerprints analyzed from those samples in their DNA databases.*

States should allow fingerprints collected from arrestees to be included in their databases because it makes the database a far more valuable tool for law enforcement. The greater the number of DNA fingerprints in the database, the more certain the statistical probabilities become when a match is made.¹⁹²

Including DNA fingerprints of arrestees in a DNA database can also serve to protect arrestees who are later acquitted or not prosecuted for whatever reason.¹⁹³ Once a suspect is known to the police based on the investigation of one crime, the police are often far more likely to suspect that person in a future crime. Therefore, inclusion in the DNA database can serve to protect individuals by allowing them to be cleared of suspicion early on in the investigation. If police know that a suspect is included in the database, and a match is not found in the database search, then the investigation must turn to consideration of those beyond "the usual suspects."

Some state statutes provide that DNA fingerprints will be expunged if a person is no longer a suspect in the particular case or if the person's conviction is reversed.¹⁹⁴ In other states, people may request that the state destroy their DNA samples and DNA fingerprints if they are acquitted of the crime that originally

¹⁹² See generally Donnelly & Friedman, *supra* note 34.

¹⁹³ See *supra* notes 153-54 and accompanying text.

¹⁹⁴ See Yee, *supra* note 45, at 484; see, e.g., CAL. PENAL CODE § 290.2(e) (West Supp. 1995); GA. CODE ANN. § 24-4-64(a) (Michie Supp. 1994); N.C. GEN. STAT. § 15A-266.10 (Michie Supp. 1993); VA CODE ANN. § 19.2-310.7 (Michie 1990).

subjected them to DNA sample collection.¹⁹⁵ Some commentators recommend that this procedure be adopted in all states.¹⁹⁶ This, however, could potentially undercut the protections provided to the person by inclusion in the database, and subject them to investigation in future cases, particularly if police believe the suspect's conviction in a previous case was wrongly reversed.

The federal database should also allow for inclusion of DNA fingerprints collected by states from those arrested for crimes, because the collection of those DNA fingerprints is constitutional under the Fourth Amendment. The government's interest—and for that matter the arrestee's interest—in achieving justice, whether by conviction or exoneration, far outweighs the minimal intrusion of obtaining and maintaining a DNA fingerprint.

C. *Increased funding should be devoted to DNA analysis to alleviate the backlog of samples awaiting analysis and increase the use of DNA analysis from crime scene evidence.*

While all fifty states are authorized to maintain DNA databases,¹⁹⁷ states have not sufficiently funded the efforts to establish the databases. In many states, samples from crime scenes and convicted felons sit in storage waiting to be analyzed.¹⁹⁸ Nationwide, nearly 500,000 blood samples from felons await analysis, while samples remain to be taken from more than one million convicted rapists and murders.¹⁹⁹ The National Commission on the Future of DNA Evidence has recommended against testing of arrestees, not because of privacy concerns, but because of cost concerns.²⁰⁰

State legislatures which have voted to expand DNA databases should be applauded for their belief in the technology. Even so, the authorization of DNA databases does little if state legislatures and the federal government do not provide sufficient funds to implement databases.

¹⁹⁵ See Markett, *supra* note 4, at 223.

¹⁹⁶ See *id.* at 223.

¹⁹⁷ See Donnelly & Friedman, *supra* note 34, at 940.

¹⁹⁸ See, e.g., *How DNA Fights Crime*, *supra* note 35, at A1 (pointing out that California has a backlog of about ten thousand DNA samples).

¹⁹⁹ See *id.*

²⁰⁰ See Higgins, *supra* note 46, at 65.

- D. *Biological samples used to create a DNA fingerprint should be preserved for the near future, although their continued preservation should be evaluated in the coming years.*

The biological samples collected and used to create a DNA fingerprint should be retained in storage, at least for the near future.²⁰¹ At the same time, the debate over whether these samples should be retained over the long term should continue.

One of the strongest arguments put forth in support of retaining biological samples is that DNA technology continues to develop and samples may need to be reanalyzed to keep up with new technologies. On the other hand, the most serious privacy concerns about DNA arise because of the retention of the biological samples.

While the DNA fingerprint contains only codes that serve as personal identifiers, a complete DNA sample holds much more private information about the genetic characteristics of the individual. As science develops, not only techniques for developing DNA fingerprints improve, but so do techniques for identifying important, and private, genetic information.²⁰²

Currently, the FBI retains only the DNA fingerprint, not the biological sample.²⁰³ However, most states retain the sample for an indefinite time period.²⁰⁴ The American Civil Liberties Union has announced its intention to push for legislation requiring the destruction of biological samples once DNA testing is complete.²⁰⁵

Careful attention must be paid to security of the sample and to technological discoveries that may change the significance of the privacy interests at stake. As more precise forms of DNA analysis are developed, database entries must still be limited to genetic information that is not useful beyond identification.²⁰⁶

²⁰¹ The issue of sample retention involves only those samples collected from known individuals. There is widespread support for retention of samples from crime scenes, even after conviction, to allow for retesting and potentially exoneration. See Joe Gyan, Jr., *Safeguards Demanded for Justice*, BATON ROUGE ADVOC., Feb. 26, 2000, at 1A (discussing recommendation by National Association of Criminal Defense Lawyers and United States Senator Patrick Leahy (D-Vt.) that prisoners have the right to review genetic information for accuracy and the right to test their stored blood samples in preparation for future criminal proceedings).

²⁰² See Sharon Begley, *Decoding the Human Body*, NEWSWEEK, Apr. 10, 2000, at 51 (describing The Human Genome Project's efforts to identify the function of each gene in human DNA).

²⁰³ See Shapiro & Weinberg, *supra* note 104, at 470 (restating FBI's contention that it will only bank DNA profiles).

²⁰⁴ See Markett, *supra* note 4, at 212.

²⁰⁵ See Mark Hansen, *Banking on DNA, Prosecutors Hail Broadening Collections; Others See Privacy Violations*, A.B.A. J., Aug. 1999, at 26.

²⁰⁶ See Higgins, *supra* note 46, at 64-65 (commenting on worries that what "DNA

Furthermore, if samples are misused, the punishment should be severe.

The lack of funding for analysis of collected samples²⁰⁷ adds to potential privacy concerns. As long as these samples remain in storage, the potential for misuse continues to be as significant an issue as the retention of samples after analysis.

The government's interest in storing the sample is substantial. There is often a need to retest the sample in order to create evidence for trial or to allow the defense to test the sample prior to trial.²⁰⁸ Moreover, new or improved techniques for analysis and identification may be developed²⁰⁹ and the sample may need to be re-analyzed using these methods in order to keep pace with technology.²¹⁰

The field of DNA analysis is new and developments are almost constant.²¹¹ However, in time, the science is likely to become more settled. It is important to continually reconsider the issue of retaining biological samples.²¹²

CONCLUSION

The government's interests in solving crimes, preventing future crimes, and seeking justice for those victimized and those wrongly accused outweigh the minimal intrusion of DNA fingerprinting for inclusion in a DNA database. In time, DNA fingerprints will be thought of the way dermatoglyphic fingerprints are now viewed.²¹³ While it is uniquely personal, a DNA fingerprint is not inherently private.

scientists consider junk today might eventually be found to reveal sensitive information about a person").

²⁰⁷ See *supra* notes 197-200 and accompanying text.

²⁰⁸ See Donnelly & Friedman, *supra* note 34, at 939.

²⁰⁹ See, e.g., Angie Cannon, *New DNA Testing Cuts Prosecutorial Hedging*, SAN DIEGO UNION-TRIB., Dec. 12, 1997, at A40 (discussing the FBI's new DNA testing protocol, using six points of comparison on the DNA versus four); Mark Hansen, *A Comeback for Hair Evidence: A New Form of DNA Testing is Reviving the Value of a Common Type of Proof That Had Fallen into Disrepute*, A.B.A. J., May 1998, at 66 (discussing new developments in the use of mitochondrial DNA to test hair samples).

²¹⁰ See INMAN & RUDIN, *supra* note 102, at 7; see also Yee, *supra* note 45, at 489 ("[G]iven the potential of DNA technology, destruction would be unattractive as DNA scientists could find another improves 'ultimate identifier.'").

²¹¹ See, e.g., Cannon, *supra* note 209, at A40 (describing the FBI's new DNA testing protocol and the improvements in DNA analysis over the last decade); Hansen, *supra* note 209, at 66. (discussing scientific developments in mitochondrial DNA testing).

²¹² The National Commission on the Future of DNA Evidence is currently considering the issue of sample retention. See Higgins, *supra* note 46, at 65.

²¹³ See WAMBAUGH, *supra* note 1, at "Author's Note" (calling DNA fingerprinting "a stunning scientific discovery that may well revolutionize forensic science as dramatically as fingerprinting did in the 19th century").

A DNA fingerprint is merely a physical identifier, no more personal than the color of a person's eyes or their height. People shed cells every day in every thing they do. While those cells are unique to the individual they are no more "private" than the fingerprints left on every thing a person touches.

Privacy concerns may be triggered by decisions over whether to retain or destroy biological samples from which DNA fingerprints are analyzed, and this issue should not be avoided. Even so, the value of DNA as evidence is so well demonstrated that those on both sides of the privacy issue should be willing to work out an agreeable solution to the problem of what to do with biological samples.

The use of DNA fingerprints does not just benefit law enforcement. DNA evidence does not just benefit those wrongly incarcerated. The effective use of DNA fingerprints, databases, and evidence benefits justice.

MARTHA L. LAWSON