

California and the Future of Partial Match DNA Investigations

by JENNY CHOI*

Introduction

In 1987, Florida prosecutors advanced criminal investigations by successfully convicting a man for the first time using DNA testing in the United States.¹ Eight years later, the highly publicized O.J. Simpson murder trial catapulted the method into the mainstream. Today, investigators routinely use DNA testing to both convict and exonerate suspects by comparing the alleged perpetrator's DNA to evidence found at a crime scene. The increasing familiarity with the science, as well as its advancements, has led to broader uses. In 2008, California became the first state to expand the parameters of DNA testing and actively search for "partial matches,"² an aggressive approach that the public has both applauded and criticized.³ Amidst its controversy, this method led to the arrest of Lonnie David Franklin Jr. in July 2010. Also known as the "Grim Sleeper," Franklin allegedly murdered at least ten women over the last twenty-

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1. See generally *Andrews v. State*, 533 So. 2d 841 (Fla. Dist. Ct. App. 1988).

2. Jessica Gabel, *Probable Cause from Probable Bonds: A Genetic Tattle Tale Based on Familial DNA*, 21 HASTINGS WOMEN'S L.J. 3, 21-22 (2010). Although the Denver District Attorney's office was the first to use familial searching in the United States, California is the first to "vigorously pursue[] familial searching as a matter of policy rather than happenstance," making it the leader in the field. *Id.* at 22. Colorado and Virginia are the only other states to use familial DNA testing. Press release, Office of the Governor Robert F. McDonnell, Governor McDonnell Announces Virginia Department of Forensic Science to Begin Using Familial DNA Searches in Virginia (Mar. 21, 2011), <http://governor.virginia.gov/news/viewRelease.cfm?id=648>.

3. Maura Dolan & Jason Felch, *State Offers Police Extra DNA Tool*, L.A. TIMES (Apr. 26, 2008), <http://articles.latimes.com/print/2008/apr/26/local/me-dna26>.

five years.⁴ While many consider his capture a success story, there are still concerns over the expanding role of DNA in criminal investigations. This paper will explore the evolution of DNA testing and consider its future potential. Parts II and III focus on California's current approach to partial match searches. Part IV examines the constitutional, social, and policy issues surrounding this practice. Finally, Part V proposes formal guidelines that would provide more guidance to the application of this new and controversial technology. The guidelines serve as a compromise to appease concerns such as privacy, constitutional rights, and costs, while maximizing its potential utility.

I. Back to Basics

A. Biology of DNA

There are approximately 100 trillion cells in the human body.⁵ Each cell has a nucleus containing chromosomes, which hold all the information necessary to produce a human body.⁶ Each human normally has forty-six chromosomes.⁷ Forty-four are arranged in pairs and numbered one through twenty-two in descending order of size.⁸ The remaining two determine gender: "XX" for females or "XY" for males.⁹ Along each chromosome, genes lie at various positions and are known as loci.¹⁰ They are made up of deoxyribonucleic acid (DNA).¹¹ Among humans, at least 99.5% of DNA are the same, which accounts for common features that make us an identifiable species.¹² The remaining bit is unique to an

4. Jennifer Steinhauer, *'Grim Sleeper' Arrest Fans Debate on DNA Use*, N.Y. TIMES, July 8, 2010, at A14, available at http://www.nytimes.com/2010/07/09/us/09sleeper.html?_r=1.

5. GERALD SHEINDLIN, *GENETIC FINGERPRINTING: THE LAW AND SCIENCE OF DNA* 46 (1996).

6. *Id.*

7. *Id.*

8. *Id.* at 48.

9. *Id.*

10. DAVID KAYE, *THE DOUBLE HELIX AND THE LAW OF EVIDENCE* 40 (2010).

11. SHEINDLIN, *supra* note 5, at 46.

12. KAYE, *supra* note 10, at 42.

individual, with the exception of identical twins.¹³ This 0.5% determines genetic characteristics, growth, and development.¹⁴

One DNA molecule contains about three billion base pairs that are shaped like a double helix.¹⁵ Each base can be one of four possibilities: Adenine (A), Guanine (G), Cytosine (C), or Thymine (T).¹⁶ Because of the difference in their chemical natures, A and T can only bond with each other and C and G can only bond together.¹⁷ Therefore, the only possible combinations for the base pairs are A-T, T-A, C-G, and G-C.¹⁸

Base pairs often repeat themselves along the DNA molecule.¹⁹ When a sequence of four or five base pairs repeats itself, they are known as short tandem repeats (STRs).²⁰ The full sequences are called alleles.²¹ For example, the sequence TACG may repeat itself five times: TACGTACGTACGTACGTACG or (TACG)₅. Genetic differences, such as eye color, are results of variations among the alleles.²² Each number of repeats is a different allele, and they are often referred to as “markers” because the length of each STR is inherited from either parent.²³ Each STR is on a “locus,” or particular spot on a specific chromosome.²⁴

B. Keeping Track

In 1990, the FBI began a project to coordinate DNA collection and evaluation.²⁵ The DNA Identification Act of 1994 authorized the FBI to establish the National DNA Index System (NDIS).²⁶ Today, NDIS is one part of the Combined DNA Index System (CODIS), a

13. *Id.*

14. SHEINDLIN, *supra* note 5, at 45.

15. *Id.* at 46.

16. *Id.*

17. *Id.*

18. *Id.*

19. KAYE, *supra* note 10, at 42.

20. Henry T. Greely et al., *Family Ties: The Use of DNA Offender Databases to Catch Offenders' Kin*, 34 J.L. MED. & ETHICS 248, 249 (2006).

21. KAYE, *supra* note 10, at 42.

22. SHEINDLIN, *supra* note 5, at 49.

23. Greely et al., *supra* note 20, at 250.

24. *Id.*

25. *CODIS Brochure*, THE FED. BUREAU OF INVESTIGATION, http://www.fbi.gov/about-us/lab/codis/codis_brochure (last visited Feb. 28, 2011).

26. 42 U.S.C. § 14132 (West 2011).

database used by law enforcement throughout the United States and in over thirty other countries.²⁷ CODIS also collects and incorporates profiles from state DNA index systems (SDIS) and local DNA index systems (LDIS).²⁸

CODIS collects DNA profiles from convicted offenders, arrestees, crime scene evidence, missing persons, biological relatives of missing persons, and unidentified human remains.²⁹ Though each agency must conform to the minimum standards that the FBI has laid out, each state determines its own policies.³⁰ For example, while some states permit DNA sampling upon arrest, other states require that an offender be convicted.

Each profile is based off of thirteen core loci, or twenty-six alleles.³¹ In order to get a hit, evidence must match a profile at all thirteen loci. As of January 2011, NDIS contains over 9,654,667 profiles and has resulted in over 136,400 hits.³² In California alone, there have been 12,777 hits from among the 1,358,579 profiles.³³

II. California DNA Procedure

In response to the increasing availability of resources in criminal investigations, state legislatures began to pass statutes to explicitly permit and regulate DNA testing.

A. Origins

Though laws varied among states, original statutes generally required individuals convicted of sex offenses and other violent felonies to submit DNA samples on the basis that these offenders were likely to recidivate.³⁴ Over the years, many states added to the

27. *CODIS Brochure*, *supra* note 25.

28. *Levels of the Database*, DNA INITIATIVE, <http://www.dna.gov/dna-databases/levels> (last visited Feb. 28, 2011).

29. *CODIS Brochure*, *supra* note 25.

30. *NDIS Procedures and Administration*, DNA INITIATIVE, <http://www.dna.gov/dna-databases/ndis/> (last visited Feb. 28, 2011).

31. *CODIS and NDIS Fact Sheet*, THE FED. BUREAU OF INVESTIGATION, <http://www.fbi.gov/about-us/lab/codis/codis-and-ndis-fact-sheet> (last visited Feb. 28, 2011).

32. The NDIS has 9,298,324 offender profiles and 356,343 forensic profiles. *CODIS—NDIS Statistics*, THE FED. BUREAU OF INVESTIGATION, <http://www.fbi.gov/about-us/lab/codis/ndis-statistics> (last visited Feb. 28, 2011).

33. *Id.*

34. Mark Rothstein & Sandra Carnahan, *Legal and Policy Issues in Expanding the Scope of Law Enforcement DNA Data Banks*, 67 *BROOK. L. REV.* 127, 128 (2001).

list of crimes and justified these changes by claiming that if these criminals were not apprehended, they would be more likely to commit other, more violent crimes.³⁵ California clarified existing law by introducing the DNA and Forensic Identification Data Base and Data Bank Act of 1998 (“DNA Databank Act”).³⁶ As originally passed, the DNA Databank Act limited sampling to nine felonies and allowed police to compare a person’s DNA with crime scene DNA only when that person was a suspect.³⁷ Amendments in 2000 and 2002 added to the list of felonies and broadened the scope to allow comparisons among those who were not yet suspects.³⁸

B. The Voters Speak

In 2004, California voters approved Proposition 69, further pushing the boundaries of DNA collection. Officially entitled the “DNA Fingerprint, Unsolved Crime and Innocence Protection Act,” the proposition mandates warrantless compulsory sampling for those convicted for any felony, arson, or misdemeanor sexual offense, including retroactive application to previously convicted prisoners and parolees.³⁹ Proposition 69 also requires sampling for those arrested for felony sex offenses or murder.⁴⁰

Though there have been many cases in which convicted felons have challenged the constitutionality of DNA collection, courts throughout the country have unanimously rejected such claims.⁴¹ Among other reasons, they emphasize the government interest as overwhelmingly more important than the privacy rights of convicts. To that extent, courts have firmly established that convicts have a diminished right to privacy, which permits the collection of their DNA.⁴²

The nation is almost evenly split on whether to collect DNA samples from arrestees. Although President Obama has publicly

35. *Id.*

36. CAL. PENAL CODE § 295 (Deering 2010).

37. Robert Berlet, *A Step Too Far: Due Process and DNA Collection in California After Proposition 69*, 40 U.C. DAVIS L. REV. 1481, 1495 (2007).

38. *Id.*

39. *Proposition 69 (DNA)*, CAL. DEP’T OF JUSTICE, OFFICE OF THE ATT’ORNEY GEN., http://www.ag.ca.gov/bfs/pdf/sec_state_full_version_prop69.pdf (last visited Jan. 21, 2011).

40. *Id.*

41. *See, e.g.,* *People v. King*, 82 Cal. App. 4th 1363 (2000).

42. *Id.* at 1375.

endorsed this practice,⁴³ California is one of only twenty-four states that implement this practice.⁴⁴ Though the trend is growing, people continue to fight against it. In 2009, Lily Haskell and Reginald Ento were arrested for separate unrelated crimes.⁴⁵ They both submitted DNA samples, but neither was prosecuted.⁴⁶ Haskell and Ento brought charges against the government asserting that arrestees are distinguishable from convicted offenders and entitled to a much higher expectation of privacy.⁴⁷ While the court agreed with this rationale, it also pointed out that arrestees have a “lesser privacy interest than the general population.”⁴⁸ After balancing other factors, the court ultimately upheld compulsory DNA sampling of arrestees.⁴⁹

III. Familial Testing

With perfect match searches virtually uncontested, and the scope of such testing enlarged to include a greater portion of the population, investigators sought to expand methods of testing.

A. DNA Testing Revamped

DNA testing was innovated once again with familial searching. Following the United Kingdom’s lead, former California Attorney General Jerry Brown implemented the method as a matter of policy.⁵⁰ Rather than searching for a complete match, authorities look for DNA profiles that share some, but not all alleles.⁵¹ In California, the minimum standard is currently set at fifteen alleles.⁵² The resulting

43. *America’s Most Wanted* (Fox television broadcast Mar. 3, 2010) (transcript on file with The White House).

44. Chris Sullivan, *State Wants to Collect Your DNA on Arrest, Not Conviction*, CTR. FOR GENETICS AND SOC’Y (Feb. 2, 2011), <http://www.geneticsandsociety.org/article.php?id=5583>.

45. *Haskell v. Brown*, 677 F. Supp. 2d 1187, 1192 (N.D. Cal. 2009).

46. *Id.*

47. *Id.* at 1196.

48. *Id.* at 1197.

49. *Id.* at 1203.

50. Gabel, *supra* note 2, at 22.

51. Joel Rubin, *Grim Sleeper: How LAPD followed the DNA to an arrest*, L.A. TIMES (July 8, 2010), <http://latimesblogs.latimes.com/lanow/2010/07/how-dna-led-to-the-arrest-of-the-grim-sleeper.html>.

52. Memorandum from Edmund G. Brown, Jr., Att’orney Gen. of Cal. to All Cal. Law Enforcement Agencies and District Attorney’s Offices, DNA Partial Match (Crime Scene DNA Profile to Offender) Policy (Apr. 25, 2008) [hereinafter Cal. Att’y Gen. Memo], available at http://ag.ca.gov/cms_attachments/press/pdfs/n1548_08-bfs-01.pdf.

profiles are known as “pivots.”⁵³ Because biological relatives share similar profiles, these pivots may lead investigators toward the actual suspect.⁵⁴ Police can interview the pivot or examine family members.⁵⁵ Once a suspect is identified, police can obtain a warrant to extract the suspect’s DNA, or they can gather it through abandoned items.⁵⁶ The suspect’s sample is then compared to that from the crime scene.⁵⁷ According to Brown, only DNA samples from convicted felons have been used in the database search,⁵⁸ and this method will only be used when all other leads have been exhausted.⁵⁹ As of now, the FBI does not actively conduct familial searches the way that some of its state counterparts do, including California investigators.⁶⁰ However, labs will occasionally observe partial matches, and the FBI has authorized their release on an interim basis, as well as made recommendations in addressing the matches.⁶¹

B. The Big Break

When traditional DNA testing in the hunt for the Grim Sleeper yielded no results, Los Angeles police took advantage of the new technology and broadened their search.⁶² Among the list of 200 potential relatives, five profiles shared a common genetic marker at fifteen locations.⁶³ Knowing that the suspect was a man, the scientists tested all 200 to see if any shared a Y chromosome with the crime scene DNA.⁶⁴ A single match, among the top five, came from a man who had recently been arrested.⁶⁵ However, since he was too young

53. Gabel, *supra* note 2, at 18.

54. *Id.*

55. Dolan & Felch, *supra* note 3.

56. *Id.*

57. *Id.*

58. Hector Becerra et al., *Grim Sleeper: ‘This Terror Has Finally Come to an End,’ Mayor Villaraigosa Says*, L.A. TIMES (July 8, 2010), <http://latimesblogs.latimes.com/lanow/2010/07/grim-sleeper-this-terror-has-finally-come-to-an-end-mayor-says.html>.

59. Dolan & Felch, *supra* note 3.

60. *CODIS and NDIS Fact Sheet*, *supra* note 31.

61. *Id.*

62. *Grim Sleeper Arrest Marks Big Advance for Controversial DNA Evidence*, L.A. TIMES (July 10, 2010) [hereinafter *Arrest Marks Big Advance*], <http://latimesblogs.latimes.com/lanow/2010/07/grim-sleeper-arrest-marks-big-advance-for-controversial-dna-evidence.html>.

63. *Id.*

64. *Id.*

65. *Id.*

to be the killer, investigators turned their attention to his father.⁶⁶ Four days of non-stop surveillance yielded a discarded pizza crust, fork, napkin, and a drinking glass.⁶⁷ They took the “abandoned” materials to the lab.⁶⁸ When the lab results confirmed a complete match the following day, police arrested Franklin.⁶⁹

C. Lightning Strikes Twice

Most recently, Santa Cruz investigators arrested Elvis Lorenzo Garcia as a suspect in a three-year-old rape and robbery.⁷⁰ In March 2008, a man sexually assaulted a woman at the coffee shop where she worked and robbed the store on his way out.⁷¹ The close community banded together to discuss safety and set up a reward fund, but when the search led nowhere, police requested a familial search.⁷² In November 2010, the California Department of Justice linked the crime scene evidence to Garcia’s father.⁷³ When his father was ruled out as a suspect, police kept close watch on Garcia until January 2011, when they retrieved a hairnet and bottle from his trash.⁷⁴ Garcia’s DNA was a match, and police obtained arrest and search warrants.⁷⁵

D. Debate

These recent successes bolster advocates’ arguments in favor of expanding the use of DNA testing, but opponents point to the possibility of error. The FBI asked the Scientific Working Group on DNA Analysis Methods (SWGDM) to create an ad hoc committee and examine partial DNA matches.⁷⁶ In its recommendation, the

66. *Id.*

67. *Id.*

68. As will be discussed later in greater detail, the collection of items discarded in public places is not a constitutional violation because there is no expectation of privacy in abandoned things. *Infra* Part 0.

69. *Arrest Marks Big Advance*, *supra* note 62.

70. Stephen Baxter, *Rare, Familial DNA Used in Case of Rape and Robbery at Santa Cruz Coffee Shop*, SANTA CRUZ SENTINEL (Mar. 15, 2011), http://www.santacruzsentinel.com/ci_17618326?source=most_email.

71. *Id.*

72. *Id.*

73. *Id.*

74. *Id.*

75. *Id.*

76. THE FED. BUREAU OF INVESTIGATION, FORENSIC SCIENCE COMMUNICATIONS, SCIENTIFIC WORKING GROUP ON DNA ANALYSIS METHODS AD HOC COMMITTEE RECOMMENDATIONS TO THE FBI DIRECTOR ON THE “INTERIM PLAN FOR THE

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SWGDM found that there was little probative value in using current CODIS searching rules and algorithms because of the occasional occurrence of siblings sharing alleles at all thirteen loci, and the increased chance of shared alleles within such a large database.⁷⁷ However, they do not discount the potential value in maintaining local and state databases.⁷⁸ With fewer profiles and limited geographical reach, results are less likely to result in a false positive.⁷⁹ Familial searches may be useful if there is a parent-child relationship between the pivot and the suspect, where the genetic relationship is the strongest. However, as the ties weaken, so do the genetic connections. While critics inquire into the possibility of fruitless searches and potential implication of innocent people, proponents point out that high matches are not as common as some presume. Among Caucasians, a father and child will share on average 15.7 out of 26 CODIS alleles, and siblings will share on average 16.7 alleles.⁸⁰ These numbers drop to 8.7 for two unrelated individuals.⁸¹ Of course, the success of any search is contingent upon the existence of the perpetrator's profile and/or the profile of a family member in the database.

IV. Constitutional Concerns

A. Fourth Amendment

Opponents have criticized DNA collection of arrestees and familial testing on various constitutional grounds. The Fourth Amendment seems to carry the most weight, guaranteeing the "right of the people to be secure in their persons, houses, papers, and effects, against unreasonable search and seizures," and that "no Warrants shall issue, but upon probable cause."⁸² The Supreme Court has interpreted the Fourth Amendment as establishing rules and presumptions limiting the government's ability to intrude into an

RELEASE OF INFORMATION IN THE EVENT OF A 'PARTIAL MATCH' AT NDIS," (Oct. 2009) [hereinafter *SWGDM Recommendations*], available at http://www.fbi.gov/about-us/lab/forensic-science-communications/fsc/oct2009/Zbackup/standard_guidelines/swgdam.html.

77. *Id.*

78. *Id.*

79. *Id.*

80. Greely et al., *supra* note 20, at 253.

81. *Id.*

82. U.S. CONST. amend. IV.

individual's personal privacy.⁸³ In proving that an action violates the Fourth Amendment, the action must: (1) Constitute a search or seizure, and (2) be unreasonable.⁸⁴ As previously mentioned, collecting samples from convicted offenders is no longer an issue, and many courts have upheld statutes compelling DNA from arrestees of certain crimes. However, courts have not yet considered the greater implications with the advent of familial searches. That issue carries privacy concerns in itself for the pivot and the suspect. While isolated parts of the DNA network may pass constitutional muster, the totality of the approach foreshadows unpalatable consequences.

1. Is Compelling a DNA Sample a Search or Seizure?

A search becomes subject to constitutional scrutiny when the government intrudes beyond public aspects.⁸⁵ A blood or urine sample, because it is an intrusion into a person's body, is a plain example of a search.⁸⁶ Other personal, physical samples such as handwriting exemplars have no such expectation of privacy.⁸⁷

In California, eligible arrestees and convicted offenders submit DNA samples using buccal swabs.⁸⁸ A buccal swab is much less intrusive than a blood sample, as it merely involves collecting cells from the inside cheek of a person's mouth. Previous holdings that "DNA tests are analogous to fingerprinting for identification purposes," lead to the argument that non-invasive methods of obtaining DNA do not implicate the Fourth Amendment.⁸⁹ Nevertheless, courts have held that a swab constitutes a search because it "unquestionably implicates the right to personal security."⁹⁰ DNA is inherently different from fingerprints because of the information that can be extracted from it, including identifying and potentially implicating family members.

83. *Illinois v. McArthur*, 531 U.S. 326, 329 (2001).

84. Gabel, *supra* note 2, at 34.

85. Rothstein & Carnahan, *supra* note 34, at 135.

86. *Schmerber v. California*, 384 U.S. 757, 767 (1966).

87. *United States v. Mara*, 410 U.S. 19, 21 (1973) (holding that handwriting and voice characteristics are not meant to be private and therefore do not qualify for protection under the Fourth Amendment).

88. CAL. PENAL CODE § 296.1 (Deering 2011) (overturned in part by *People v. Buza*, 197 Cal. App. 4th 1424 (2011); at time of print under review by the California Supreme Court).

89. Rothstein & Carnahan, *supra* note 34, at 155.

90. *United States v. Kincade*, 379 F.3d 813, 821 (9th Cir. 2004).

2. *Unreasonableness*

If an action constitutes a search or seizure, it may still be constitutional if it is reasonable. Courts must balance the degree of intrusion into an individual's privacy against the government interest at stake.⁹¹ For example, even though blood samples constitute a search, the Court has established its reasonableness by emphasizing the minimal intrusion in light of government interests.⁹²

The government has asserted numerous justifications to support its DNA collection practices. First, it has suggested that the ability to profile will have a deterrent effect.⁹³ The courts have notably acknowledged that there is a real interest in reducing recidivism and a need to combat that issue.⁹⁴ However, the courts have not explained how DNA profiling will affect a potential criminal's decision to reoffend or why it would then be necessary to collect DNA from those on death row.⁹⁵ They point out that the government has an objective to investigate and prosecute similar classes of unsolved and future crimes.⁹⁶ The government argues that establishing a common database can help to solve cold cases or even exonerate innocent suspects.⁹⁷ Fingerprints are easily covered by wearing gloves and can enable a criminal to leave no traces of evidence. On the other hand, because DNA "permeates blood, semen False . . . saliva False . . . hair and epidermal cells," it is incredibly difficult for a criminal to leave unscathed.⁹⁸ Finally, DNA testing could prevent wrongful convictions and exonerate those who were innocently convicted.⁹⁹

The majority of these justifications presume that the government has an interest in implicating or exonerating reoffenders. It will be interesting to see how the court will analyze the reasonableness of

91. *Camara v. Municipal Court*, 387 U.S. 523, 537 (1967).

92. Rothstein & Carnahan, *supra* note 34, at 141 (blood samples are minimal intrusions because of legal requirements such as entering the military or applying for a marriage license, or voluntary actions such as donating blood).

93. *Kincade*, 379 F.3d. at 838.

94. *Id.*

95. Women on death row challenged the California DNA Act claiming it violated their privacy rights. The court recognized the plaintiffs' constitutional interests, but rejected them citing other states that have upheld mandatory DNA collection from offenders. *See generally* *Alfaro v. Terhune*, 98 Cal. App. 4th 492 (2002).

96. Rothstein & Carnahan, *supra* note 34, at 143.

97. *Id.* *See also* *Haskell v. Brown*, 677 F. Supp. 2d 1187, 1201 (N.D. Cal. 2009).

98. *Kincade*, 379 F.3d at 839.

99. *Id.* at 869 (Gould, J., concurring).

partial match searches. The Supreme Court has ruled that the governmental purpose of general crime control is not a Constitutional “primary purpose.”¹⁰⁰ Traditional DNA testing is a permissible method of crime control because it helps law enforcement “determine whether specific individuals have committed particular crimes.”¹⁰¹ In contrast, a partial match search involves “trawling” for profiles of a potential genetic relative, not an actual suspect. Furthermore, the subsequent use of an offender’s genetic material in partial matching has nothing to do with the circumstances of the offender’s conviction for which the sample was compelled.¹⁰² The government will have to find a way to justify this fishing expedition with a legitimate purpose.

3. “Special Needs” Exception

Courts have relaxed probable cause and reasonable suspicion under the “special needs” exception.¹⁰³ In his concurrence in *New Jersey v. T.L.O.*, Justice Blackmun stated that courts may substitute a balancing test of privacy interests against law enforcement objectives in “exceptional circumstances” where warrant and probable cause requirements are “impracticable.”¹⁰⁴ The Ninth Circuit has used a similar exception and applied the “totality of the circumstances.”¹⁰⁵ If familial testing is used in narrow and extraordinary circumstances, then it is more likely that the balance will fall in favor of its use. Some believe that in applying a balancing test, a court should not just “consider[] the defendant . . . but also the potential future threats to him and others that this technology poses.”¹⁰⁶ Therefore, even if the public benefits outweigh an individual’s privacy, it may not outweigh the rights of the investigated group.¹⁰⁷

100. See generally *City of Indianapolis v. Edmond*, 531 U.S. 32 (2000); *Ferguson v. City of Charleston*, 532 U.S. 67 (2001).

101. *Kincade*, 379 F.3d at 857.

102. Gabel, *supra* note 2, at 37.

103. Daniel Grimm, *The Demographics of Genetic Surveillance: Familial DNA Testing and the Hispanic Community*, 107 COLUM. L. REV. 1164, 1190 (2007).

104. *New Jersey v. T. L. O.*, 469 U.S. 325, 351 (1985).

105. *Kincade*, 379 F.3d. at 838.

106. Sonia M. Suter, *All in the Family: Privacy and DNA Familial Searching*, 23 HARV. J.L. & TECH. 309, 344 (2010).

107. *Id.*

B. Fourteenth Amendment

There may also be potential claims under the Equal Protection Clause of the Fourteenth Amendment, which provides that no state shall “deny to any person within its jurisdiction the equal protection of the laws.”¹⁰⁸

1. Equal Protection Clause

Familial DNA testing may have a disparate impact on certain racial groups.¹⁰⁹ The African-American community has experienced a well-recognized history of disproportionately high arrest and conviction rates, which has in turn led to its overrepresentation in databases.¹¹⁰ Familial DNA testing may “exacerbate the actual and apparent disparities” by creating a greater probability that a partial match exists.¹¹¹

There are similar consequences for the Hispanic community. First, Hispanics are increasingly experiencing the same input problem.¹¹² Coupled with the fact that they are the demographic group with the highest rate of natural population growth, “a Hispanic defendant is likely, on average, to lead investigators relying on familial testing to a higher number of genetic relatives than if the profile had been obtained from a non-Hispanic person.”¹¹³

Interestingly, no articles have mentioned the disparate impact on males versus females. The majority of the total correctional population is male.¹¹⁴ Thus, it would be logical to assume that partial match searches would affect males at a greater rate than females, especially with the additional Y-STR testing that intentionally targets male relatives. Yet these critics are much more concerned with possible unintended consequences on racial groups.

Despite these arguments, legal analysts consistently believe that these claims will carry little weight in court.¹¹⁵ In order for an Equal

108. U.S. CONST. amend. XIV.

109. See generally Erin Murphy, *Relative Doubt: Familial Searches of DNA Databases*, 109 MICH. L. REV. 291 (2010); Grimm, *supra* note 103.

110. Grimm, *supra* note 103, at 1165.

111. Murphy, *supra* note 109, at 321.

112. Grimm, *supra* note 103, at 1165.

113. *Id.*

114. In 2009, 82% of the total correctional population was male. LAUREN GLAZE, BUREAU OF JUSTICE STATISTICS, CORRECTIONAL POPULATIONS IN THE UNITED STATES, 2009 (Dec. 2010), available at <http://bjs.ojp.usdoj.gov/content/pub/pdf/cpus09.pdf>.

115. Grimm, *supra* note 103, at 1186; Murphy, *supra* note 109, at 331.

Protection claim to be viable, there must be intentional discrimination.¹¹⁶ Current California and federal standards for partial match searches show no indication of intentionally targeting particular racial groups. In fact, the FBI has recommended protocol to implement searches that equally target each of the four major ethnic groups.¹¹⁷

2. *Due Process*

The United States Supreme Court has held that due process requires a hearing when a person has been deprived of property.¹¹⁸ As previously discussed, extracting a DNA sample is a seizure under the Fourth Amendment.¹¹⁹ This hearing must be meaningful and adequate to protect the right at issue.¹²⁰ The government has succeeded in defending DNA extraction without a hearing under the exception of an extraordinary situation with a valid governmental interest.¹²¹ However, there has not yet been a ruling on whether that government interest is still valid in retaining the sample without a proper due process hearing after the suspect is cleared of charges or acquitted.

For those who seek to remove their DNA from the California database, Proposition 69 redesigned the expungement process. Judges have complete discretion, and denials are unreviewable.¹²² The practical effect is that this power makes the removal process arduous and allows the database to retain DNA indefinitely without legal cause.¹²³ Even if a petition for expungement is successful, there is no way to guarantee that a lab will comply with the court order.¹²⁴

116. *Washington v. Davis*, 426 U.S. 229, 244 (1976).

117. *SWGDM Recommendations*, *supra* note 76.

118. *Mathews v. Eldridge*, 424 U.S. 319 (1976); *see also* *City of Los Angeles v. David*, 538 U.S. 715 (2003).

119. *Supra* Part IV.a.1.

120. *Hamdi v. Rumsfeld*, 542 U.S. 507, 533 (2004) (citing *Fuentes v. Shevin*, 407 U.S. 67, 80 (1972)).

121. The Court has also held that an unauthorized, intentional deprivation of property does not violate one's due process if there is a meaningful post remedy available. *See Hudson v. Palmer*, 468 U.S. 517, 533 (1984).

122. CAL. PENAL CODE § 299(c)(1) (Deering 2011).

123. Berlet, *supra* note 37, at 1484.

124. *Id.* at 1496.

V. Beyond the Law

While constitutional issues alone justify scrutiny of any process, social and policy concerns should also weigh in the discussion.

A. Social Concerns

There are a myriad of social and policy concerns arising out of familial DNA testing. First, there is the worry that these searches erroneously embody the concept that criminality is biological.¹²⁵ Erin Murphy argues that by conducting partial match searches, “we would have to believe as a matter of criminology or sociology that the relatives of criminal offenders are more likely to be criminal offenders themselves than persons without relatives that have been convicted of crime.”¹²⁶ This may be overreaching and distorting the intent of those doing the search. In Murphy’s analysis, she backwardly assumes that investigators are conducting partial match searches because they believe that a relative, if existent, will be in the system. The way the California criteria are currently applied, however, suggests no such motivation. Rather, these searches are only to occur when “[a]ll other leads and attempts to identify the source have been exhausted,”¹²⁷ implying that when there is a dead end a partial match search is better than giving up entirely. Daniel Grimm more poignantly points out that “inferring the possibility of wrongdoing through genetic identity will stigmatize some groups than others . . . [which] creates the possibility of entrenching stereotypes that correlate race and ethnicity with criminality.”¹²⁸ While this may carry some weight, it is still based on outsiders’ ignorance rather than the actual intent of such searches. The opinions of uninformed people should not outweigh the realities and benefits of the system.

Greater, perhaps more legitimate, concerns involve potential detrimental effects on families who may learn distasteful information throughout the course of an investigation. There may be family members who are unaware of their relative’s criminality.¹²⁹ Even in families where criminality of a relative is no secret, investigations pursuant to partial matches may threaten the “great societal interest

125. Murphy, *supra* note 109, at 304.

126. *Id.* at 305–06.

127. Cal. Att’y Gen. Memo, *supra* note 52.

128. Grimm, *supra* note 103, at 1194.

129. Murphy, *supra* note 109, at 319.

in maintaining and promoting intact, healthy, family units.”¹³⁰ Many families have already suffered emotionally or financially while a relative underwent the criminal justice system, either as supporters or as victims. Subsequent investigations may rekindle painful memories and add additional stress onto perhaps already strained relationships, regardless of whether their relative turns out to be the ultimate suspect.¹³¹

Also, there is the possibility that familial searches may lead to the discovery of previously unknown genetic relationships, or lack thereof.¹³² For example, a child may find out that he or she was adopted, or a man may discover that he is not the biological father of a child he previously believed to be his. But this situation will present itself in rare cases, and even then the information is only harmful if the investigators communicate it.¹³³ There likely is a greater probability of a family finding out through other sources than through familial testing, especially if it is rarely used, as suggested. Even so, the benefits of catching a high-profile suspect in light of no other leads would arguably outweigh the potential negative consequences of interfering with family links. While critics are quick to point out the potential evils, they offer no suggestions on how to improve the system to minimize the risks other than to forgo the use of this technology altogether. Their comments are valid and should be considered, but their worries are too speculative and attenuated to disband such a beneficial tool.

B. Policy Concerns

Beyond the effects on the family unit, there are concerns regarding the methods that investigators employ after targeting pivots. The Attorney General has not provided any guidelines in conducting an investigation other than establishing procedures for collecting biological information. Once labs have created a short list of a suspect’s potential relatives, they have no direction or regulation for subsequent steps.¹³⁴ One concern is the cost of following-up on

130. *Id.* at 321.

131. *Id.* at 319.

132. Erica Haimes, *Social and Ethical Issues in the Use of Familial Searching in Forensic Investigations: Insights from Family and Kinship Studies*, 34 J.L. MED. & ETHICS 263 (2006).

133. Greely et al., *supra* note 20, at 255.

134. See Cal. Att’y Gen. Memo, *supra* note 52.

leads. Law enforcement is unlikely to pursue leads if there are an enormous number of leads, and more likely if there are few. In the Grim Sleeper case, investigators were lucky enough to narrow down the suspect pool to one solid lead and catch him within days. However, with no further guidelines, it is difficult to foresee how investigators will decide when their case is compelling enough. Henry Greely points out that such discretion may be even more clouded during a high profile case such as “a political assassination, a terrorist attack, or a notorious murder.”¹³⁵ Arguably, in such cases it may be worth devoting extra attention to the hunt. But that still does not address the cost of possibly extensive searching and interviewing of suspects and their relatives.¹³⁶ If not a bright line, there must be at least some statutory guidance to ensure that the state’s resources are used effectively. Even when Santa Cruz investigators narrowed their investigation to a single suspect, they spent months following Garcia before arresting him.¹³⁷

Another concern is that investigators may become overconfident with leads, creating a risk of confirmation bias.¹³⁸ Suggestive genetic evidence may dominate and shape the course of any subsequent investigation so it inevitably taints the results.¹³⁹ An exact match creates a similar scenario of creating a high level of confidence, but the greater probability that the suspect is the perpetrator decreases the likelihood of a false positive, and legitimizes the risk.¹⁴⁰ On the other hand, the weaker genetic certainty creates a greater risk. California has already partially addressed this issue by setting a minimum threshold of 16 STR alleles.¹⁴¹ By requiring a greater number of matches, the probability of a true genetic relationship rises, thereby diminishing the risk of such bias.

Even if investigations are conducted “properly,”¹⁴² there are concerns regarding the appropriateness of using CODIS given the discrepancies in DNA collection. As discussed previously, states

135. Greely et al., *supra* note 20, at 253.

136. *Id.*

137. Baxter, *supra* note 70.

138. Murphy, *supra* note 109, at 310.

139. *Id.*

140. *Id.* at 312.

141. Cal. Att’y Gen. Memo, *supra* note 52.

142. The word “properly” here is ambiguous because the absence of any guidelines makes any assessment difficult.

disagree on whether to include profiles of arrestees.¹⁴³ This is not an immediate concern for California since it utilizes one of the most expansive methods of DNA collection, but the massive size of California's database could potentially impact other states with more restrictive procedures. For example, Colorado allows partial match searches¹⁴⁴ but not DNA samples from arrestees¹⁴⁵ so when an investigator runs a partial match search with crime scene evidence through CODIS, it may be compared to California's arrestees. Now, Colorado is actively using, and thus implicitly condoning, techniques beyond its statutory limitations. Similarly, local databases are unregulated by the more stringent rules of national and state databases.¹⁴⁶ A simple way to address this could be to limit the scope of searches to allow comparisons of databases with equal or more stringent parameters. However, this would be difficult to regulate, and even then it would likely impede the effectiveness of the system, rendering it useless. Overall, this issue has merited relatively minor attention in light of other larger concerns, but as the discussion grows, there may be greater attention.

The Attorney General's Memorandum delineates specific procedures regarding any DNA collection from pivots.¹⁴⁷ It states in part that such samples must be knowingly and voluntarily made without the use of "threat, pressure, duress, or coercion of any kind . . . whether (i) direct or indirect, (ii) express or implied, or (iii) physical or psychological."¹⁴⁸ Not surprisingly, there are many skeptics who question how closely law enforcement will abide by these regulations given their zeal for solving what is presumably a high profile, and otherwise cold, case. Even if the law does not

143. *Supra* Part II.a.

144. P. Solomon Banda, *Family DNA Debate: Colorado at Ground Zero of Controversial Forensic Technique*, HUFFINGTON POST (Feb. 9, 2010), http://www.huffingtonpost.com/2010/02/09/family-dna-use-debate-col_n_455472.html.

145. 'State Laws on DNA Data Banks Qualifying Offenses, Others Who Must Provide Sample', NAT'L CONFERENCE OF STATE LEGISLATURES (Feb. 25, 2010), <http://www.ncsl.org/IssuesResearch/CivilandCriminalJustice/StateLawsonDNADataBanks/tabid/12737/Default.aspx>.

146. Ellen Nakashima, *From DNA of Family, a Tool to Make Arrests*, WASH. POST, Apr. 21, 2008, at A-1.

147. Cal. Att'y Gen. Memo, *supra* note 52.

148. *Id.*

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compel pivots to submit to any requests, pivots may still comply “due to ignorance or because they feel they have no real choice.”¹⁴⁹

The most problematic issues involve the retention of biological information. California requires all pivots’ samples and records to be destroyed after testing.¹⁵⁰ But given the lack of oversight and accountability of laboratories, there is no way to know for sure whether samples were properly purged. This is especially troublesome for the arrestees whose samples were compelled pursuant to law, but who were exonerated or never charged. Some localities and states maintain “offline” DNA databanks with samples from victims or suspects who were never charged with a crime.¹⁵¹ Even with pious intent, lack of resources creates obstacles in efficient execution. California labs have consistently dealt with a backlog of DNA samples,¹⁵² and they are likely more concerned with getting samples into the database in the hopes of getting hits than in removing a single profile.

C. Suspect and Pivot Privacy Rights

When investigators narrow down a suspect, they can obtain his or her DNA sample in one of two ways: Obtain a search warrant or collect “abandoned” DNA. A warrant may not be issued without probable cause. Probable cause exists when “there are reasonably trustworthy facts which, given the totality of the circumstances, are sufficient to lead a prudent person to believe that items should constitute fruits, instrumentalities, or evidence of a crime.”¹⁵³ The question then becomes, is a partial match in itself enough to constitute probable cause or must there be corroborating evidence? Currently, there is no consensus among states using familial searching as to what is the minimum requirement.¹⁵⁴

If investigators choose to bypass a warrant, they may attempt to collect DNA stealthily by collecting “abandoned” items. The

149. Suter, *supra* note 106, at 344.

150. Cal. Att’y Gen. Memo, *supra* note 52.

151. Nakashima, *supra* note 146.

152. In January 2011, 17,303 samples were added, 17,999 profiles were uploaded to CODIS, and only 729 profiles were removed. There were nearly 38,000 samples in backlog. Jan Bashinski, *DNA Laboratory Monthly Statistics*, CAL. DEP’T OF JUSTICE, OFFICE OF THE ATTORNEY GEN., <http://ag.ca.gov/bfs/pdf/Monthly.pdf> (last visited Feb. 26, 2011).

153. Kohler v. Englade, 470 F.3d 1104, 1108 (5th Cir. 2006).

154. Gabel, *supra* note 2, at 37.

Supreme Court has held that there is no “expectation of privacy” in trash placed outside of the home for collection notwithstanding the intimate items and information that may be contained therein.”¹⁵⁵ While scavenging leftover pizza crusts of a narrowly drawn suspect does not seem problematic, there are more disturbing scenarios.

When it comes to pivots, the guidelines are broad. The Attorney General’s Memorandum outlines proper methods in collecting voluntary samples, but it is silent on surreptitious collection.¹⁵⁶ In 2005, law enforcement apprehended Dennis Rader, a highly elusive serial killer known through his modus operandi: BTK, for Bind Torture Kill.¹⁵⁷ In one of the earliest uses of familial testing in the United States, Kansas investigators got a court order for a sample of his daughter Kerri’s Pap smear.¹⁵⁸ Without her knowledge, investigators compared her samples to the crime scene evidence, found a near-perfect match, and arrested her father.¹⁵⁹ While Kerri had “no problem” with the use of her Pap smear,¹⁶⁰ it is reasonable to assume that others may not share those sentiments.

There are obvious and significant differences between Lonnie Franklin’s pizza crust and Kerri Rader’s Pap smear. First, California investigators obtained a specimen from the actual suspect, whereas Kansas investigators probed into a specimen from the suspect’s child. It is troubling that the suspicion of a particular person may grant license to invade all other, presumably innocent, genetic relatives. Also, Franklin discarded the waste in a manner consistent with courts’ interpretations of abandonment. Kerri, on the other hand, turned over her genetic information to a medical clinic. Even if she had been familiar with the Family Educational Rights and Privacy Act (FERPA), there is arguably a heightened expectation of privacy. The Los Angeles police likely took special care in the Grim Sleeper

155. *California v. Greenwood*, 486 U.S. 35, 32 (1988). The exception is where the “abandonment” occurs within the curtilage, such as when a person tosses a half-smoked cigarette into the trash at his home. *State v. Reed*, 641 S.E.2d 320, 323 (N.C. Ct. App. 2007).

156. Cal. Att’y Gen. Memo, *supra* note 52.

157. Nakashima, *supra* note 146.

158. Investigators had narrowed their suspects to Dennis Rader when computer forensics found out that a document on a CD sent to a local television station had been saved by a “Dennis” at a local church where Rader was the congregation’s president. They used an exemption in the Family Educational Rights and Privacy Act to obtain the specimen from her university medical clinic. *Id.*

159. *Id.*

160. *Id.*

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case, knowing that a successful apprehension would be highly publicized and scrutinized. However, these precautions were voluntary, and not in compliance with any statutory governance. In other cases, it is foreseeable that law enforcement may blur the lines as to what constitutes “abandonment.”¹⁶¹

As more familial search investigations occur, law enforcement may seek warrants to compel samples from pivots. If this were to happen, genetic similarity on its face should not be enough to constitute probable cause. Rather, there should a statutory scheme that requires some corroborating evidence or some other independent source of suspicion in support of an order to submit biological information.¹⁶²

VI. Recommendations and Conclusions

The Court has held that the Constitution does not prohibit certain kinds of intrusions, but there must be “precise and discriminate procedures” to safeguard against abuse.¹⁶³ If California’s protocol is to survive an imminent review at the Supreme Court, it must institute specific guidelines or else risk legitimizing privacy concerns. California citizens cannot always rely on law enforcement to take extraordinary precautionary measures in these types of cases. By defining expectations, the government can ensure that all investigations are conducted properly and according to the public’s standards. The contrasts between Franklin and Garcia’s investigations and arrests illustrate the range in which familial DNA testing may be implemented, and the need for more stringent guidelines to narrow the scope of its use.¹⁶⁴

As a way of eradicating the discriminatory tendencies of partial match searching, analysts have suggested a nationwide database that contains everybody’s DNA profiles.¹⁶⁵ But to propose this universal

161. For example, when people donate blood they obviously do not have an expectation of privacy. But does that make it appropriate for law enforcement to seize it when they are pivots or even suspects? They likely had the expectation that it would not be used for genetic profiling or that any information would be held criminally against them.

162. Murphy, *supra* note 109, at 345-46.

163. *Id.* at 339 (citing *Berger v. New York*, 388 U.S. 41 (1967); *Katz v. United States*, 389 U.S. 347 (1967)).

164. Baxter, *supra* note 70.

165. Rothstein & Carnahan, *supra* note 34, at 129. *See also* Akhil Reed Amar, *A Safe Intrusion*, AM. LAW., June 2001, at 69; *UK Police Chief Calls for National DNA Database*,

intrusion would be akin to decriminalizing robbery to decrease crime rates. While the intentions are understandable, the consequences would be catastrophic. Furthermore, courts are unlikely to find any reason compelling enough to trample the privacy rights of the entire nation. Instead, the government should minimize the potential negative effects of familial searching by creating a stricter and more concrete statutory scheme to assist law enforcement in their investigations.

A. Types of Crimes

First, familial testing should be specifically limited to the most violent cases. Given the large number of violent crimes in California, it should only be used in murders and rapes.¹⁶⁶ However, with over 10,000 murders and rapes in 2009, the potential field should be even further refined.¹⁶⁷ Following the strategy from the search for the Grim Sleeper, I would suggest implementing partial match searches only when multiple qualifying crimes can be linked to a single perpetrator. Not to diminish the atrocity of the Santa Cruz crime, but if the technology is to be used narrowly, it should be dedicated to the most heinous ones. The minimum threshold can be determined and reevaluated based on the practical outcomes. For example, if the minimum is set at ten related crimes, investigators can use their discretion to choose among the qualifying profiles. However, if after time they find that the threshold is too cumbersome, they may seek to lower it. Of course, there should be provisions to allow for exceptional circumstances, such as assassinations or terrorist attacks.

Second, if investigators intend to pursue cold cases through familial testing, there should be a clearer understanding of when a case is “cold” enough, such as a minimum number of years lapsed. To narrow the list further, police may consider setting a ceiling of maximum number of years passed, absent a continuing pattern, in order to focus on suspects that pose a continuing threat.

393 NATURE 106 (1998); Teresa K. Baumann, *Proxy Consent and a National DNA Databank: An Unethical and Discriminatory Combination*, 86 IOWA L. REV. 667, 675 (2001) (opposing national DNA data bank).

166. In 2009, there were 174,459 acts of violent crime in California. *California Crime Rates 1960-2010*, DISASTER CTR., <http://www.disastercenter.com/crime/cacrime.htm> (last visited Mar. 15, 2011).

167. There were 1,972 murders and 8,713 forcible rapes. *Id.*

B. Restricted Database Searching

When trawling through its own database, California should continue to limit the searches to offenders and exclude arrestees. However, it is conceivable that the State will expand its searches into other databases. If allowed, California should limit the scope to states with the same or more stringent DNA collections. This currently is not a major issue, since California is one of the most liberal databases. However, there are people who advocate for obtaining samples from individuals arrested for any crime.¹⁶⁸ Whether or not there are plausible legal arguments for limiting the search, preemptively limiting expansion to those of equivalent scope will prevent against outcries of social or policy concerns.

C. Regulation of Investigations

The government should also elucidate guidelines for investigations, including interactions with pivots, length and methods of investigation, and protocol for dealing with particular situations. As mentioned, DNA from pivots should be limited to voluntary relinquishment and should not allow for surreptitious retrieval.¹⁶⁹ Pivots are entitled to their full privacy rights, since the fact that they are a partial, as opposed to complete, match necessarily excludes them as the actual suspect. Investigators should limit questioning of the pivot in the absence of any supporting evidence. Talking to neighbors, co-workers, or friends should be explicitly prohibited. Simply sharing genetic information with a potential suspect does not entitle investigators to raise the level of scrutiny. There should even be precautions when looking at family members. Any investigation should stay within the realm of public records and the pivot.

It may also be wise to create a suggested timeframe for investigations. In contrast to the four days needed to catch the Grim Sleeper, Santa Cruz police followed Garcia for months. While the time necessary will undoubtedly vary among cases, there must be precautions against wasting resources. When investigators in the Grim Sleeper case believed that they had a suspect, they submitted the information to the Attorney General for review.¹⁷⁰ However,

168. Rothstein & Carnahan, *supra* note 34, at 129.

169. See Part V.b.

170. Murphy, *supra* note 109. Though Attorney General Kamala Harris issued a press release regarding Garcia's arrest, it is currently unclear whether she or former Attorney General Brown had any personal involvement in the Santa Cruz partial match search.

some question the appropriateness of this policy in the future, given that the Attorney General may arguably share the same motivations as the investigators.¹⁷¹ As an alternative, such authority should be divested either in the courts or in a committee. Requiring a judge to review this information, similar to the way in which search warrants are issued, may provide a more neutral process. However, the vast number of courts statewide and the lack of communication among them may lead to overuse. Especially without any written guidelines, conditions for granting such requests will inevitably vary. A committee is the best solution.¹⁷² It would resolve issues of both neutrality and consistency.

If investigators do discover a previously unknown genetic link, or lack thereof, they should not reveal the information unless such revelation is necessary for the apprehension of a suspect. Then investigators should determine which party to tell. First, they should look at the nature of the relationship: Adopted child, adopted sibling, different father, etc. Then, they should consider the role of the pivot and suspect within that relationship, whether either would already know of the situation, and who else may know. For example, a couple that adopted a child would already be aware of a lack of a genetic link. On the other hand, a man may not know of the existence of his son until a partial match search. In this situation, only the suspect's mother, not the pivot or the suspect, may be aware of the link. Even though it may seem rational to notify the knowledgeable parties, investigators should be cautious in their timing. If investigators reveal the information prior to the suspect's arrest, there is the possibility that the relative may tip off the suspect, making it more difficult to apprehend him. On the other hand, there may be a societal, or at least a moral, benefit from a person discovering the truth about his biological family from someone close to him, rather than law enforcement. Every situation will be different, and it would be impossible to create rigid guidelines for every contingency. Rather, investigators should evaluate the circumstances on a case-by-case basis using the aforementioned factors.

News Release, Cal. Dep't of Justice, Office of the Attorney Gen., Santa Cruz Sex Assault Suspect Identified Through Same DNA Technology Used in Grim Sleeper Case (Mar. 15, 2011), http://ag.ca.gov/newsalerts/print_release.php?id=2051.

171. Murphy, *supra* note 109.

172. Erin Murphy suggests a group made up of scientists, statisticians, executive officers, and prosecuting and defense attorneys. *Id.* at 343.

D. Expungement

Perhaps the most crucial element, expungement procedures, should be relaxed. There should be compulsory expungement for arrestees who are not charged or are exonerated. With no legal suspicion of guilt, there is no way to distinguish this group from “free persons.” Retaining their DNA is equivalent to collecting DNA from an innocent person, for which there is no legitimate reason. At a minimum, there should be automatic approval for petitions that meet the minimum requirements. If a person qualifies to have his or her DNA removed, there should be no room for a judge’s discretion. If a judge does deny a petition for some reason, there should be a proper appeal process. A discretionary review with no appellate review does not constitute a meaningful process. The government should also consider compulsory expungement after a certain number of years, for example 150 years.¹⁷³ After that point, retaining DNA no longer meets any compelling reasons for deterrence, catching recidivists, or exonerating an innocent person. One may argue that, for better or worse, it may implicate the generations that do survive. But assuming no perpetual acts of incest, the genes will continue to get diluted with each new generation, making the chances of a significant number of matching alleles highly unlikely.

E. Consistent Reevaluation

California may choose to implement all, some, or none of these suggestions. At the very least, investigators should keep detailed records and reports—with the exception of any identifying or private data—and make them available to the public. This technology was born controversial, and understanding the process can aid in an educated and productive discussion on its future uses. Even if searches are unsuccessful, knowing why can help in adjusting parameters to maximize the potential and minimize the dangers. With the recent successes in the Grim Sleeper and Santa Cruz cases, many other states are looking to follow California’s example. It is incumbent upon California to set the best possible example by using familial searches appropriately.

173. I chose 150 years because the world’s oldest man in modern times lived to be 138 years old, thus eliminating the problem of an elderly recidivist. *World’s oldest man dies at the age of 138*, MAIL ONLINE (Aug. 20, 2008), <http://www.dailymail.co.uk/news/world/news/article-1047397/The-worlds-oldest-man-dies-age-138.html>.

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