

FORENSIC EVIDENCE AND RULE 3.8: WHAT DOES THE USE OF BITE MARK EVIDENCE TELL US ABOUT PROSECUTORIAL ETHICS?

BRENDAN CLEMENTE†

ABSTRACT

Rule 3.8 of the ABA's Model Rules of Professional Conduct should include rules that specifically address unethical uses of forensic evidence in criminal prosecutions. Forensic evidence is common in criminal trials. But the traditional rules of ethics do not effectively address the use of forensic evidence. Rule 3.8 should include a rule requiring prompt and full disclosure of information about expert witnesses whom the prosecutor plans to call and all relevant information that the prosecutor knows about a forensic method's application in the case. Rule 3.8 should also include a requirement that the prosecutor use reasonable diligence to learn about a forensic method and possess a good faith belief that the method's application in the case will be reliable before introducing the evidence at trial.

INTRODUCTION

One day, imagine you hear a loud, unexpected knock on the door. You ask who it is and it's the police. They ask you where you were on a particular night about a year ago. You tell them you are unsure of what you did that night, but that you were probably with your girlfriend or your friends at the local pub. Before you know what they are driving at, you are arrested for a gruesome murder that occurred on the night in question. Months later, you are sitting in court. The prosecution has an eyewitness who thinks he saw you around the apartment complex where the crime took place, and you have an alibi witness in your best friend. But the prosecution has someone else: a forensic odontologist. This expert witness is going to testify that a six-tooth bite mark on the victim's skin is a likely match to your dental profile. A few days later, you're convicted and sentenced to life in prison for a crime you did not commit. Does that seem like an ethical prosecution?

The American criminal trial system first developed centuries ago.¹

† Duke University School of Law, J.D. May 2022; B.A. in Economics and Political Science, University of Notre Dame, May 2018.

¹ Hon. Alex Kozinski, *Criminal Law 2.0*, 44 GEO. L.J. ANN. REV. CRIM. PROC. iii, xviii (2015).

Since its early development, the criminal trial process has remained essentially the same,² but changes in technology have changed what types of evidence influence the process.³ Forensic evidence holds sway in courtrooms, as jurors who watch shows like *CSI* and *Forensic Files* expect to see scientific evidence proving guilt.⁴ Some types of forensic evidence, like DNA evidence, demonstrate the kind of accuracy and consistency on which jurors can generally rely.⁵ But not every form of forensic evidence has proven reliable. In fact, some types, including blood splatter and bite marks, have helped put many innocent people in prison.⁶

Who decides what types of scientific evidence are used to convict criminal defendants? The rules governing the admission of expert testimony, like other rules of evidence, are not self-executing. So defendants must rely on their attorneys to challenge the admission of forensic evidence to keep the government from prosecuting them with junk science. Criminal defendants' lack of resources can thus factor into what scientific testimony makes it into the courtroom.⁷ Challenging expert testimony is often more difficult for criminal than civil defendants because criminal procedure rules in many jurisdictions do not mandate that the prosecution disclose the same amount of information concerning expert testimony that civil litigants must disclose.⁸ And courts often rely

² *Id.*

³ NAT'L RESEARCH COUNCIL OF THE NAT'L ACADS., STRENGTHENING FORENSIC SCIENCE IN THE UNITED STATES: A PATH FORWARD 9 (2009) [hereinafter NAS REPORT], <https://www.ncjrs.gov/pdffiles1/nij/grants/228091.pdf>.

⁴ See Kristina Ericksen, *7 Ways the CSI Effect is Altering Our Courtrooms (For Better and For Worse)*, RASMUSSEN UNIV. (Jan. 25, 2017), <https://www.rasmussen.edu/degrees/justice-studies/blog/ways-csi-effect-is-altering-our-courtrooms/>.

⁵ See NAS REPORT, *supra* note 3, at 9.

⁶ See Radley Balko, *Incredibly, Prosecutors are Still Defending Bite Mark Evidence*, WASH. POST (Jan. 30, 2017), <https://www.washingtonpost.com/news/the-watch/wp/2017/01/30/incredibly-prosecutors-are-still-defending-bite-mark-evidence/>.

⁷ Keith A. Findley, *Innocents at Risk: Adversary Imbalance, Forensic Science, and the Search for Truth*, 38 SETON HALL L. REV. 893, 931 (2008) (“[T]he defense bar as a whole is generally unprepared to utilize or challenge scientific evidence adequately.”).

⁸ Jennifer D. Oliva & Valena E. Beety, *Discovering Forensic Fraud*, 112 NW. U. L. REV. 121, 130 (2017) [hereinafter *Discovering Forensic Fraud*]. Rule 16 of the Federal Rules of Criminal Procedure, which governs disclosures of evidence in federal criminal cases, was revised in 2022. Rule 16 was amended to “ensure that parties receive adequate information about the content of the witness’s testimony and potential impeachment.” FED. R. CRIM. P. 16 advisory committee’s note to 2022 amendment. To that end, “items (a)(1)(G)(i) and (iii) . . . delete the phrase ‘written summary’ and substitute specific requirements that the parties

on precedent in determining whether a forensic method is reliable enough to admit into evidence instead of focusing on updated scientific evidence that bears on the method's reliability.⁹ The result: individuals facing prosecution are often poorly positioned to successfully challenge faulty science that could put them behind bars. Even when they make such challenges, they face uphill battles, even against faulty forensic science.

This article argues that the government should bear more of the burden in filtering out faulty forensic evidence. It illustrates the need for reform by specifically reviewing the unreliability of bite mark analysis and the history of its use. The article considers how the dynamics of criminal litigation can make challenging forensic experts difficult. To address these issues, the article proposes ethics rules to govern prosecutors' use of forensic evidence. The point of the proposed rules is that introducing unreliable forensic testimony is as unethical as putting forward any other misleading evidence. So, the proposed rules require complete, pretrial disclosure of information concerning forensic evidence, and that prosecutors only introduce forensic testimony that they believe in good faith is reliable based on diligent investigations.

I. THE UNRELIABILITY OF BITE MARK EVIDENCE

Bite mark evidence works through comparison between a victim's bite mark and a suspect's dentition. When a perpetrator bit his victim or a piece of evidence, investigators can preserve the bite marks.¹⁰ They can do so using techniques like taking photographs or impression molding.¹¹ Investigators can then create a cast of the suspect's dentition or use the

provide 'a complete statement' of the witness's opinions, the bases and reasons for those opinions, the witness's qualifications, and a list of other cases in which the witness has testified in the past 4 years." *Id.* The Committee notes how "the language of some of these provisions is drawn from Civil Rule 26," though the amended Rule 16 does not "replicate all aspects of practice under the civil rule in criminal cases." *Id.*; see FED. R. CIV. P. 26(a)(2)(B)(i) (requiring a "written report—prepared and signed by the witness" which "must contain," *inter alia*, "a complete statement of all opinions the witness will express and the basis and reasons for them"). Rule 16 does not, for example, explicitly require disclosure of "the facts or data considered by the witness in forming" her opinions or "any exhibits that will be used to summarize or support them." FED. R. CIV. P. 26(a)(2)(B)(ii)–(iii).

⁹ See *Discovering Forensic Fraud*, *supra* note 8, at 129 (discussing how courts often rely on precedent in admitting forensic evidence).

¹⁰ Jennifer D. Oliva & Valena E. Beety, *Regulating Bite Mark Evidence: Lesbian Vampires and Other Myths of Forensic Odontology*, 94 WASH. L. REV. 1769, 1777 (2019) [hereinafter *Regulating Bite Mark Evidence*].

¹¹ *Id.*

suspect's dental records.¹² At trial, a forensic odontologist would explain why the defendant's dentition matches the bite mark. The expert compares "measurement and analysis of the pattern, size, and shape of teeth" to "characteristics observed in an injury on skin or a mark on an object."¹³

The unreliability of bite mark evidence is well-documented. In 2009, for example, the National Academy of Sciences (NAS) published a report on forensic evidence called *Strengthening Forensic Science in the United States: A Path Forward*.¹⁴ The report criticized various types of forensic evidence that are based on comparison or matching.¹⁵ The report specifically outlined the problems with bite mark evidence. It explained that the uniqueness of the human dentition has not been scientifically established.¹⁶ It also explained that "[t]he ability of dentition, if unique, to transfer a unique pattern to human skin and the ability of the skin to maintain that uniqueness has not been scientifically established."¹⁷ Nor has "[a] standard for the type, quality, and number of individual characteristics required to indicate that a bite mark has reached a threshold of evidentiary value . . . been established."¹⁸ This lack of standards is particularly concerning because bite marks typically include vague marks from a few teeth, which makes distinguishing dentitions challenging.¹⁹

The NAS's summary of bite mark evidence shows its dim view of the technique. The NAS concluded that while "it is reasonable to assume that [bite mark analysis] can sometimes reliably exclude suspects," there are "no scientific studies [that] support" that bite marks can "demonstrate sufficient detail for positive identification."²⁰ The NAS also pointed out that, "[i]n numerous instances, experts diverge widely in their evaluations

¹² *Id.*

¹³ Heras et al., *Computer-Based Production of Comparison Overlays from 3D-Scanned Dental Casts for Bite Mark Analysis*, 50 J. FORENSIC SCI. 1, 1 (2005).

¹⁴ NAS REPORT, *supra* note 3.

¹⁵ NAS REPORT, *supra* note 3, at 7 (finding that "forensic evidence is offered to support conclusions about 'individualization' (sometimes referred to as 'matching' a specimen to a particular individual or other source) or about classification of the source of the specimen into one of several categories. With the exception of nuclear DNA analysis, however, no forensic method has been rigorously shown to have the capacity to consistently, and with a high degree of certainty, demonstrate a connection between evidence and a specific individual or source").

¹⁶ NAS REPORT, *supra* note 3, at 175.

¹⁷ *Id.*

¹⁸ *Id.* at 176.

¹⁹ See Michael J. Saks et al., *Forensic Bitemark Identification: Weak Foundations, Exaggerated Claims*, 3 J.L. & BIOSCIENCES 538, 554–55 (2016) (explaining that "often only 4 to 8" tooth marks are present in bite mark cases, rendering comparisons between the marks and dental casts challenging).

²⁰ NAS Report, *supra* note 3, at 176.

of the same bite mark evidence, which has led to questioning of the value and scientific objectivity of such evidence.”²¹

Other organizations have reached similar conclusions. The Texas Forensic Science Commission issued a 2016 report concluding that “there is no scientific basis for stating that a particular patterned injury can be associated to an individual’s dentition.”²² The Commission held hearings with representatives from the American Board of Forensic Odontology (ABFO) in which those representatives “vigorously defended” the technique.²³ Despite the ABFO’s arguments, the Commission concluded that bite mark comparisons “have no place in our criminal justice system because they lack any credible supporting data.”²⁴

A few months later, the President’s Council of Advisors on Science and Technology (PCAST) published a report reaching a similar conclusion about bite mark analysis.²⁵ The Council reviewed studies analyzing the reliability of bite mark analysis and concluded that “available scientific evidence strongly suggests that examiners not only cannot identify the source of bitemark[s] with reasonable accuracy, they cannot even consistently agree on whether an injury is a human bitemark.”²⁶

The scientific evidence against the reliability of bite mark analysis illustrates the need for gatekeepers to keep flawed evidence out of courtrooms. But prosecutors can be hesitant about playing such a role. Even after the PCAST published its 2016 report, the Department of Justice refused to adopt its recommendations about only using scientifically reliable forensic evidence.²⁷ This has left courts with the duty to filter out

²¹ *Id.*

²² TEX. FORENSIC SCI. COMM’N, FORENSIC BITEMARK COMPARISON COMPLAINT FILED BY NATIONAL INNOCENCE PROJECT ON BEHALF OF STEVEN MARK CHANEY – FINAL REPORT 10 (Apr. 12, 2016), *available at* <https://www.txcourts.gov/fsc/publications-reports/investigative-reports/>. [hereinafter TEXAS COMMISSION REPORT].

²³ *Regulating Bite Mark Evidence*, *supra* note 10, at 1780 (citing TEXAS COMMISSION REPORT, *supra* note 22, at 8–11).

²⁴ TEXAS COMMISSION REPORT, *supra* note 22, at 11.

²⁵ PRESIDENT’S COUNCIL OF ADVISORS ON SCI. & TECH., EXEC. OFFICE OF THE PRESIDENT, FORENSIC SCIENCE IN CRIMINAL COURTS: ENSURING SCIENTIFIC VALIDITY OF FEATURE COMPARISON METHODS (2016), *available at* <https://obamawhitehouse.archives.gov/blog/2016/09/20/pcast-releases-report-forensic-science-criminal-courts> [hereinafter PCAST REPORT].

²⁶ *Id.* at 9.

²⁷ *White House Advisory Council Report is Critical of Forensics Used in Criminal Trials: U.S. Attorney General Says Justice Department Won’t Adopt Recommendations*, WALL ST. J. (last updated Sept. 20, 2016, 4:25 PM EST), <https://www.wsj.com/articles/white-house-advisory-council-releases-report->

flawed forensic methods.

II. FILTERING FORENSICS: *DAUBERT* AND BITE MARK EVIDENCE

Despite bite mark evidence's flaws, courts have failed to keep it out of court. In fact, as of a 2018 report, "no court in America ha[d] upheld a challenge to the validity of such evidence and refused to allow a jury to hear about it."²⁸ This is not because courts generally admit faulty expert testimony. In civil litigation, courts regularly exclude experts.²⁹ Instead, patterns of admitting questionable forensic evidence in criminal trials have developed because of the rules and dynamics of the criminal trial process. As a result, the current structure of criminal litigation has failed to prevent flawed uses of bite mark analysis.

A. *Daubert* Overview

Courts enforce evidentiary rules that regulate the admissibility of expert testimony. The Supreme Court ruled in *Daubert v. Merrell Dow Pharmaceuticals, Inc.* that, under Rule 702 of the Federal Rules of Evidence, a "trial judge must ensure that any and all scientific testimony or evidence admitted is not only relevant, but reliable."³⁰ The Court explained that "evidentiary reliability will be based upon scientific validity."³¹ The Court also emphasized that trial judges considering the admissibility of expert testimony should focus "solely" on the expert's "principles and methodology," and "not on the conclusions that they generate."³² Further, the methodology must be reliable not just in general but as applied to the facts of the case.³³

critical-of-forensics-used-in-criminal-trials-1474394743. The DOJ recently released a statement criticizing the PCAST report's recommendations and methodology. *United States Department of Justice Statement on the PCAST Report: Forensic Science in Criminal Courts: Ensuring Scientific Validity of Feature-Comparison Methods*, U.S. DEP'T OF JUST. (Jan. 13, 2021), <https://www.justice.gov/olp/page/file/1352496/download>. While the DOJ does not use bite mark analysis, it does use other methods the report criticized. *See id.* at 1 n.6.

²⁸ Radley Balko, *Yet Another Bite-Mark Conviction is Unraveling*, WASH. POST (May 21, 2018), <https://www.washingtonpost.com/news/the-watch/wp/2018/05/21/yet-another-bite-mark-conviction-is-unraveling/>.

²⁹ *See Discovering Forensic Fraud*, *supra* note 8, at 127–28.

³⁰ *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579, 589 (1993).

³¹ *Id.* at 590, 591 n.9 (emphasis omitted).

³² *Id.* at 595.

³³ *See id.* at 592–93 (outlining how the trial judge must make an "assessment of whether the reasoning or methodology underlying the [expert's proffered] testimony is scientifically valid and of whether that reasoning or methodology properly can be applied to the facts in issue").

The *Daubert* Court directed trial courts to apply a “flexible” test for the admissibility of expert testimony.³⁴ It advised trial courts to consider the following non-exclusive factors in assessing the reliability of the expert’s method: (1) whether the theory or technique can be or has been tested; (2) whether it has been subject to peer review and publication; (3) its known or potential error rate; (4) its controlling standards and methodologies; and (5) its degree of acceptance within the relevant scientific community.³⁵ The Court extended the *Daubert* analysis to cover other technical or specialized knowledge in *Kumho Tire Co., Ltd. v. Carmichael*.³⁶ Rule 702 was amended in 2000 to explicitly adopt the *Daubert* test to govern the admissibility of expert testimony based on scientific or technical knowledge.³⁷

While *Daubert* and Rule 702 do not bind state courts, states have adopted similar tests for the admissibility of expert testimony. Most states follow their own *Daubert* tests, while some follow the “general acceptance” framework³⁸ outlined in *Frye v. United States*.³⁹

B. The Courts and Bite Mark Evidence

If courts applied the *Daubert* factors rigorously, they would likely exclude bite mark analysis used for positive identifications. The technique’s potentially high error rates⁴⁰ and the lack of sound, controlling methodologies for applying bite mark comparisons should render it inadmissible in most cases.⁴¹ But courts have routinely admitted bite mark evidence, along with testimony based on other questionable forensic methods.⁴²

³⁴ *Id.* at 594.

³⁵ *Id.* at 593–94.

³⁶ *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 141 (1999).

³⁷ See FED. R. EVID. 702 advisory committee’s note to 2000 amendment.

³⁸ See Anjelica Cappellino, *Daubert v. Frye – Navigating the Standards of Admissibility for Expert Testimony*, EXPERT INST. (Mar. 11, 2022), <https://www.expertinstitute.com/resources/insights/daubert-vs-frye-navigating-the-standards-of-admissibility-for-expert-testimony/> (discussing how approximately 27 states have adopted a version of *Daubert*’s reliability test). Prior to *Daubert*, courts applied the general acceptance test, which asks whether the methodology in question is generally accepted as reliable in the relevant scientific community. See *Regulating Bite Mark Evidence*, *supra* note 10, at 1800. *Daubert* has not materially impacted how courts analyze bite mark evidence. See *id.* at 1802–03.

³⁹ *Frye v. United States*, 293 F. 1013 (D.C. Cir. 1923).

⁴⁰ See Saks et al., *supra* note 19, at 561–66 (discussing studies showing high error rates for bite mark analysis).

⁴¹ Erica Beecher-Monas, *Reality Bites: The Illusion of Science in Bite-Mark Evidence*, 30 CARDOZO L. REV. 1369, 1376 (2009).

⁴² See Peter J. Neufeld, *The (Near) Irrelevance of Daubert to Criminal Justice and*

Criminal defendants rarely challenge the admission of forensic experts,⁴³ which likely contributes to the frequent admission of bite mark evidence. Criminal defendants often lack the resources to undertake the research needed to challenge the prosecution's expert testimony.⁴⁴ The evidence available to defendants at trial thus comes mostly from the government's investigation. Because police and investigators are incentivized to conduct research to help prove the defendant's guilt, defendants can find themselves without adequate information to challenge the application of forensic testimony against them.⁴⁵ While the *Brady* rule obligates prosecutors to disclose material, exculpatory evidence to the defense, prosecutors initially decide what evidence is material, while defendants may never discover what prosecutors withhold.⁴⁶

Criminal defendants also lack the same opportunities that civil litigants have to develop evidence that could help them challenge expert testimony. The Federal Rules of Civil Procedure, for example, permit open discovery of "any nonprivileged matter that is relevant to any party's claim or defense and proportional to the needs of the case," and require thorough, pretrial disclosures of information relevant to an expert's testimony.⁴⁷ Open discovery and thorough disclosures of experts' opinions and methods help civil litigants prepare to object to the admission of expert testimony and cross-examine experts at trial.⁴⁸ On the other hand, criminal defendants generally lack the same access to information about

Some Suggestions for Reform, 95 AM. J. PUB. HEALTH S107, S110 (2005) ("Even when the most vulnerable forensic sciences—hair microscopy, bite marks, and handwriting—are attacked, the courts routinely affirm admissibility citing earlier decisions rather than facts established at a hearing.").

⁴³ Findley, *supra* note 7, at 932, 934.

⁴⁴ *Id.*

⁴⁵ See *id.* at 898–900 (discussing the institutional pressure on police and investigators to build cases against suspects and the cognitive biases against suspects that can form during investigations).

⁴⁶ Kozinski, *supra* note 1, at xxvii.

⁴⁷ FED. R. CIV. P. 26(b)(1); see *id.* (a)(2) (requiring, *inter alia*, "a complete statement of all opinions the [expert] witness will express and the basis and reasons for them," "the facts or data considered by the witness in forming them," and "any exhibits that will be used to summarize or support them").

⁴⁸ Some commentators believe the standard for expert testimony in civil cases, such as toxic tort cases, "has been set *too high*." Joseph Sanders, *Proof of Individual Causation in Toxic Tort and Forensic Cases*, 75 BROOK. L. REV. 1367, 1374 (2010). The rigor of review of expert testimony in civil cases is likely due in part to the differences in discovery rules and resources available to defendants. See *Discovering Forensic Fraud*, *supra* note 8, at 130 ("[O]pen and mandatory disclosure of proffered scientific expert evidence pretrial in the civil system has had a significant impact on the quality of forensic evidence.").

forensic experts during discovery.⁴⁹ As Judge Saul Rakoff of the Southern District of New York explained, when “an adversary does not know in advance sufficient information about the forensic expert and the methodological and evidentiary bases for that expert’s opinions, the testimony of the expert is nothing more than trial by ambush.”⁵⁰

Even when defendants challenge bite mark testimony, they typically lose. Yet the problems with bite mark analysis were not recent discoveries. Until 1974, forensic odontologists used bite mark analysis primarily to help identify victims of military conflicts or natural disasters.⁵¹ Experts would rely on this analysis because of two aspects of identifying victims. One, such identifications involve comparisons among a well-defined subset of individuals—the likely victims of a disaster or conflict. Second, analyzing a victim’s body involves comparisons of dental records to the victims’ generally full dental casts.⁵² Dental experts had long hesitated to provide identifications in court because the two aspects of identifying victims’ bodies were not present in comparing a bite mark to a defendant’s dental cast, and because human skin is a flawed medium from which to analyze dentitions.⁵³ Put simply, experts generally represented that they could reliably compare the teeth in a *victim’s* mouth to her dental records. But they could not reliably compare a *bite mark* to a *defendant’s* dental records.

This started to change in 1975 in a California case, *People v. Marx*.⁵⁴ There, three forensic dentists, led by Gerry Vale of the UCLA School of Dentistry, asserted that unique circumstances permitted them to make an identification based on bite marks despite the general problems with attempting to do so.⁵⁵ They claimed that an unmistakably clear bite mark and the suspect’s unusual dentition allowed them to make a positive identification.⁵⁶ The trial court admitted the testimony under California’s general acceptance test.⁵⁷ The appeals court then affirmed in part because, while the technique was “novel” in court, the experts applied it using scientifically reliable tools like X-rays, microscopy, and photography.⁵⁸

⁴⁹ See *id.* at 131.

⁵⁰ Jed S. Rakoff, *Full Text: Judge’s Protest Resignation Letter*, WASH. POST (Jan. 29, 2015), http://www.washingtonpost.com/local/full-text-judges-protest-resignation-letter/2015/01/29/41659da6-a7e1-11e4-a2b2-776095f393b2_story.html.

⁵¹ Saks et al., *supra* note 19, at 543.

⁵² *Id.*

⁵³ *Id.*

⁵⁴ 54 Cal. App. 3d 100 (Cal. Ct. App. 1975).

⁵⁵ Saks et al., *supra* note 19, at 543–44.

⁵⁶ *Id.* at 544.

⁵⁷ *Marx*, 54 Cal. App. at 111.

⁵⁸ *Id.*

The court also noted that the jury could use those tools to see the similarities between the bite marks on the victim and the defendant's bite cast, which had "obvious irregularities" that "generally conformed" to the wounds.⁵⁹

Even though the experts in *Marx* asserted narrow grounds to justify relying on bite mark analysis, *Marx* became caselaw for other courts to cite in admitting bite mark testimony.⁶⁰ As more courts started letting it in, its use became more widespread.⁶¹ Since bite mark evidence became more common, courts have continued admitting it at least in part because other courts typically admit it.⁶² In *Verdict v. State*, for example, the Arkansas Supreme Court found no error in admitting bite mark testimony because "evidence on human bite marks is widely accepted by the courts."⁶³ In *Carter v. State*, the Supreme Court of Indiana similarly found bite mark analysis admissible because the defendant did not argue that the methodology had become less reliable since Indiana courts first admitted it in 1977.⁶⁴ And in *State v. Timmendequas*, the Supreme Court of New Jersey found bite mark testimony had "gained general acceptance and [was] therefore reliable" because "over thirty states considering such evidence [had] found it admissible."⁶⁵ That courts defer to prior evaluations of bite mark evidence for admissibility determinations represents, arguably, an abdication of their duty to scrutinize expert testimony.⁶⁶ As Professor Brandon Garrett has put it, "*Daubert* does not suggest that one of the factors is, 'what did judges say about this ten years ago?'"⁶⁷ Between criminal procedure rules' disclosure requirements, resource constraints for defendants, and courts' reliance on precedent,

⁵⁹ *Id.*

⁶⁰ Saks et al., *supra* note 19, at 545 (discussing how "*Marx* became the paradoxical seed from which most, if not all, subsequent decisions about admissibility of bitemark expert testimony grew").

⁶¹ *See id.* ("Although the experts in *Marx* agreed to testify only because they regarded its facts as an exceedingly rare, and therefore justifiable, exception to the field's general belief that accurate source identification was not possible using bite marks in flesh, subsequent courts ignored that distinction and cited *Marx* for the far more general proposition that bite marks in flesh 'could' be associated with their sources with a high degree of accuracy.").

⁶² *See* Beecher-Monas, *supra* note 4141, at 1372.

⁶³ *Verdict v. State*, 868 S.W.2d 443, 447 (Ark. 1993).

⁶⁴ *Carter v. State* 766 N.E.2d 377, 380 (Ind. 2002).

⁶⁵ *State v. Timmendequas*, 161 N.J. 515, 624 (1999).

⁶⁶ *See Regulating Bite Mark Evidence*, *supra* note 10, at 1803.

⁶⁷ Brendan Clemente, *Interview with Professor Brandon Garrett on Exposing the Flaws in Forensics*, DUKE L. & TECH. REV.: SCHOLAR INTERVIEWS (Jan. 9, 2022), <https://dltr.law.duke.edu/2022/01/09/professor-brandon-garrett-on-exposing-the-flaws-in-forensics/>.

courts have not served as adequate gatekeepers against bite mark analysis.

IV. BITE MARK EVIDENCE AND WRONGFUL CONVICTIONS

Any wrongful conviction is one too many, and bite mark analysis has led to a disproportionate number.⁶⁸ Recent reports indicate bite mark evidence has helped lead to thirty-one convictions that ended in exonerations.⁶⁹ Wrongful convictions based on bite mark evidence likely result from scientific gloss that covers the evidence's unreliability and potential juror bias against individuals accused of crimes involving gruesome injuries.

The famous conviction of Ray Krone, an Arizona man dubbed the “Snaggletooth killer,” illustrates both points.⁷⁰ Ray Krone was convicted of the brutal murder of Kim Ancona.⁷¹ On a December morning in 1991, a Phoenix bar owner found Ancona dead in the men's bathroom, with bite marks on her neck and breast.⁷² The police identified no fingerprints, semen, or blood from the killer—in fact, “[t]here were no DNA tests” conducted.⁷³ The police instead based their investigation on the bite marks.⁷⁴ At trial, the prosecution played a video tape that “attempted to show a match between Krone's teeth and Ancona's wounds by overlaying the two.”⁷⁵ The state's expert produced the tape, which he used “extensively during his testimony” to compare dental casts, CAT scans, and Styrofoam impressions of Krone's teeth to the victim's bite wound.⁷⁶ The state only delivered the video tape to the defense one business day before the trial began.⁷⁷ While the Arizona Supreme Court overturned the conviction for the delayed disclosure of the tape under Rules 15.1(a)(3) and (4) of the Arizona Rules of Criminal Procedure,⁷⁸ Krone was

⁶⁸ *Regulating Bite Mark Evidence*, *supra* note 10, at 1782.

⁶⁹ *See id.* at 1773 (citing Seth Augenstein, *Bite-Mark Evidence Should Be 'Deceased,' Dentist Says*, FORENSIC MAG., (Nov. 5, 2018, 12:22 PM), <https://www.forensicmag.com/news/2018/11/bite-mark-evidence-skinshould-be-deceased-dentist-says> [<https://perma.cc/KL3E-RF3Z>]).

⁷⁰ Hans Sherrer, *Ray Krone Settles for \$4.4 Million After Two Wrongful Murder Convictions*, 32 JUST. DENIED: THE MAG. FOR THE WRONGFULLY CONVICTED 16, 16 (2006), http://justicedenied.org/issue/issue_32/krone_jd32.pdf.

⁷¹ *Id.*

⁷² *State v. Krone*, 182 Ariz. 319, 319–20 (1995).

⁷³ *See id.* at 319–20.

⁷⁴ *See id.*

⁷⁵ *Id.* at 320.

⁷⁶ *Id.*

⁷⁷ *Id.* The prosecution delivered the tape to the defense on a Friday before a trial that began on the following Monday. *Id.*

⁷⁸ *See id.* at 321–23.

convicted again on retrial based on the same evidence.⁷⁹

Thanks to his family's work, DNA evidence exonerated Krone in April 2002.⁸⁰ His cousin, who owned a small business, worked with his mother and stepfather to finance an investigation into the physical evidence from the scene.⁸¹ By April 2002, DNA results from blood found on the victim's clothing that was not tested before trial⁸² excluded Krone and implicated Kenneth Phillips, a man then in prison for sexually assaulting and choking a seven-year-old girl.⁸³

Krone's case shows the dynamics that can cause wrongful convictions based on bite mark evidence. Krone's public defender lacked access to critical evidence supporting expert testimony until the day before the trial, illustrating an extreme case of under-resourced defense lawyers attempting to fend off questionable expert testimony with insufficient time to prepare. The expert also used tools like dental casts, CAT scans, and Styrofoam impressions to claim the bite wound matched Krone's dentition. The use of medical tools can give jurors the impression that bite mark analysis is more scientifically sound than it actually is.⁸⁴ And just as the media had labeled Krone the "snaggletooth killer" before his trial began, jurors may succumb to biases against defendants accused of crimes involving bite marks because of the gruesome nature of such crimes.⁸⁵

V. RULE 3.8 REFORM: REQUIRING MORE FROM PROSECUTORS WHO INTRODUCE FORENSIC EVIDENCE

Bite mark analysis is unreliable and has led to notable wrongful convictions. Even the experts who testified in *People v. Marx* expressed

⁷⁹ Sherrer, *supra* note 70, at 16. Krone only retained private counsel for his retrial. *Id.*

⁸⁰ *Id.*

⁸¹ *Id.*

⁸² See ARIZONA JUSTICE PROJECT, *Ray Krone*, <https://azjusticeproject.org/case-profiles/ray-krone/> (last visited Aug. 22, 2023) ("A photo of Kim's underwear shows a droplet of what was later found to have been the murderer's blood. This evidence was not tested before trial."). That the police did not test the blood may explain why the Arizona Supreme Court wrote that the police found no blood from the killer in its 1995 opinion. See *Krone*, 182 Ariz. at 319–20.

⁸³ Sherrer, *supra* note 70, at 16.

⁸⁴ See also Saks et al., *supra* note 19, at 551 (explaining how the term "match" "risks misleading factfinders into believing the expert's conclusion is more certain than pattern-matching conclusions"—such as bite mark comparisons—"can be").

⁸⁵ Cf. *Regulating Bite Mark Evidence*, *supra* note 10, at 1785–92 (explaining how bite mark experts have falsely testified that LGBTQ individuals who commit sex crimes are more likely to aggressively bite their victims and how such testimony has influenced juries to wrongly convict such defendants).

doubts about the technique's general reliability for positive identifications. That prosecutors have used bite mark analysis in many cases shows how institutional incentives to win cases can push some prosecutors to toe ethical lines.

Prosecutors' reliance on bite mark testimony conflicts with the prosecutor's special role under Rule 3.8 of the ABA *Model Rules of Professional Conduct*.⁸⁶ As defendants often lack the resources⁸⁷ to challenge faulty forensic testimony and courts fail to exclude it, justice requires implementing new rules regulating prosecutorial conduct.⁸⁸ Reforming Rule 3.8 to specifically address the use of forensic evidence would shift the burden of analyzing forensic evidence from under-resourced defendants onto the state and better align the prosecutor's role with that of a "minister of justice."⁸⁹

A. Rule 3.8 and Other Relevant Ethical Rules

Rule 3.8 of the *Model Rules*, which covers the "Special Responsibilities of a Prosecutor," sets forth additional ethical obligations for prosecutors beyond those applicable to other advocates. Rule 3.8 has remained substantively similar for decades.⁹⁰ Generally, it follows the principle that a prosecutor "is the representative not of an ordinary party to a controversy, but of a sovereignty whose obligation to govern impartially is as compelling as its obligation to govern at all; and whose interest, therefore, in a criminal prosecution is not that it shall win a case, but that justice shall be done."⁹¹

The rule includes requirements that prosecutors "refrain from prosecuting a charge that the prosecutor knows is not supported by probable cause," "make reasonable efforts to assure that the accused has been advised of the right to . . . counsel," and "make timely disclosure to the defense of all evidence or information known to the prosecutor that tends to negate the guilt of the accused or mitigates the offense."⁹² The rule covers different conduct than the *Brady* rule, which requires

⁸⁶ See SUSAN R. MARTYN ET AL., *THE LAW GOVERNING LAWYERS* 74 (Rachel E. Barkow et al. eds., 2020). The *Law Governing Lawyers* includes the 2019 ABA Model Rules of Professional Conduct reprinted. See *id.* at ix.

⁸⁷ In Krone's case, "[t]he prosecution spent more than \$50,000 just supporting its bite mark theory—more than thirty times the \$1,500 Krone's public defender was allotted for investigating all aspects of his case." Sherrer, *supra* note 70.

⁸⁸ Kozinski, *supra* note 1, at xxvi.

⁸⁹ MARTYN ET AL., *supra* note 86, at 74.

⁹⁰ Niki Kuckes, *The State of Rule 3.8: Prosecutorial Ethics Reform Since Ethics 2000*, 22 GEO. J. LEGAL ETHICS 427, 466 (2009).

⁹¹ *Berger v. United States*, 295 U.S. 78, 88 (1935).

⁹² MARTYN ET AL., *supra* note 86, at 73 (covering R. 3.8(a)–(b), (d)).

prosecutors to disclose material exculpatory evidence to defendants as a matter of constitutional due process.⁹³ In addition, Rule 3.8 requires prosecutors to disclose evidence that creates doubt about prior convictions and to seek remedies for wrongful convictions in the prosecutor's jurisdiction.⁹⁴ The ABA added the duty to rectify wrongful convictions in 2008, in part in response to well-known DNA exonerations.⁹⁵

In 2000, the ABA convened a commission called "Ethics 2000" and considered reforms to Rule 3.8.⁹⁶ During its proceedings, the Commission agreed to add language to clarify that the prosecutor's duty to disclose exculpatory evidence covers "evidence that tends to impeach a government witness."⁹⁷ But after federal and state prosecutors objected, the ABA reversed this decision.⁹⁸

Other, generally applicable model rules also regulate prosecutors' conduct with respect to witnesses. Rule 3.3, titled "Candor Toward the Tribunal," prohibits any lawyer from offering "evidence that the lawyer knows to be false."⁹⁹ The rule includes a mandate to disclose the falsity of evidence to the tribunal if the lawyer comes to know of its falsity.¹⁰⁰ The rule is "premised on the lawyer's obligation as an officer of the court to prevent the trier of fact from being misled by false evidence."¹⁰¹

Rule 3.4, titled "Fairness to Opposing Party and Counsel," prohibits any lawyer from falsifying evidence or counseling or assisting a witness to testify falsely.¹⁰² Rule 3.4 also prohibits lawyers from alluding to "any matter the lawyer does not reasonably believe is relevant or that will not be supported by admissible evidence."¹⁰³ Rule 3.4's obligations

⁹³ See *Kyles v. Whitley*, 514 U.S. 419 (1995). See also *Brady v. Maryland*, 373 U.S. 83, 86–87 (1963) (establishing the rule). But see *Kozinski*, *supra* note 1, at xxii–xxvi (describing notable *Brady* violations and asserting prosecutors may commit far more *Brady* violations than courts can notice).

⁹⁴ MARTYN ET AL., *supra* note 86, at 73–74 (covering R. 3.8(f)–(h)).

⁹⁵ See *Kuckes*, *supra* note 90, at 431, 458–59.

⁹⁶ See *id.* at 429.

⁹⁷ See *id.* at 439. See also *Comm'n on Evaluation of Rules of Pro. Conduct, Meeting Minutes Friday, December 10, through Sunday, December 12, 1999*, AM. BAR ASS'N, https://www.americanbar.org/groups/professional_responsibility/policy/ethics_2000_commission/121099mtg/ (Mar. 8, 2021) (noting "a consensus to add a reference to impeachment evidence to paragraph (d)" of Rule 3.8).

⁹⁸ See *Kuckes*, *supra* note 90, at 439.

⁹⁹ MARTYN ET AL., *supra* note 86, at 65 (R. 3.3(a)(3)).

¹⁰⁰ *Id.*

¹⁰¹ *Id.* at 66 (R. 3.3 cmt. 5).

¹⁰² *Id.* at 68 (R. 3.4(b)).

¹⁰³ *Id.* (R. 3.4(e)).

are designed to promote “fair competition in the adversary system.”¹⁰⁴

B. Two Rules Specifically Regulating the Ethical Use of Forensics

The ABA should consider writing ethical rules regulating prosecutors’ use of forensic experts. Rules governing prosecutors’ use of forensics should address the issues discussed above. One rule should require pre-trial disclosure of relevant information concerning forensic testimony. This would require disclosure of the expert’s background, conclusions, reasoning process, and any relevant data compiled during the investigation. A second rule should prohibit prosecutors from calling expert witnesses who will provide forensic testimony that, based on the exercise of reasonable diligence, the prosecutor does not believe in good faith will reliably help the fact-finder determine guilt or innocence.

1. Duty of Disclosure

A rule requiring timely disclosure of relevant information about forensic testimony could better position defendants to challenge it. The rule would require prosecutors to notify defendants in a timely manner that they plan to offer forensic testimony and provide all information relevant to the testimony. This would require prosecutors to make available to the defense any examinations, lab test results, data, or other relevant information related to the forensic testimony. The rule would also require prosecutors to provide background information about the expert, such as the expert’s curriculum vitae and record testifying in court.

Importantly, the rule would require that the prosecutor disclose any information she learns during her investigation that could undermine the expert’s testimony. The rule would thus include the results of any lab tests that the government caused to be conducted and analysts’ notes on those tests—the latter of which would not necessarily end up in the kinds of expert reports that prosecutors must disclose before trial under many jurisdictions’ rules of criminal procedure.¹⁰⁵ The rule would also require the prosecutor to disclose any information that the expert provided about the weaknesses or limits of her analysis.¹⁰⁶ And the rule would ensure prosecutors disclose reports or notes by analysts who disagree with an

¹⁰⁴ *Id.* (R. 3.4 cmt. 1).

¹⁰⁵ See Paul C. Giannelli, *Criminal Discovery, Scientific Evidence, and DNA*, 44 VAND. L. REV. 791, 809 (1991) (discussing how Rule 16 “covers only ‘results or reports’” and does not cover “log notes, [testing] protocols, and other internal documents”) (citing *United States v. Iglesias*, 881 F.2d 1519 (9th Cir. 1989), *cert. denied*, 110 S. Ct. 1154 (1990)).

¹⁰⁶ See *supra* notes 51–53 and accompanying text (discussing the limited contexts in which bite mark comparisons permit reliable identifications).

expert witness's conclusion.¹⁰⁷

This rule would help remedy the information imbalance in criminal litigation. Because the government collects most of the information discussed at trial, defendants need access to the government's information to defend themselves.¹⁰⁸ Unlike in Ray Krone's case, when the prosecutors disclosed an expert's key exhibit on the last business day before trial,¹⁰⁹ prosecutors would need to reveal all information relevant to forensic testimony well before trial. Disclosure would enable the defense to move to exclude the expert's testimony, find a rebuttal expert, and prepare an effective cross-examination.

The requirement to provide relevant background information about forensic experts is also important to help defendants identify experts with histories of presenting flawed testimony. Disclosure of such a history would help ensure such experts face vigorous scrutiny upon cross-examination. This could help diminish the influence of experts like forensic odontologist Dr. Michael West of Mississippi, who testified in many trials and assisted in multiple wrongful convictions.¹¹⁰ He even testified as a bite mark expert in seven trials while under investigation for ethical violations by the ABFO.¹¹¹ The Model Rules should ensure that prosecutors who introduce experts like Dr. West cannot do so without alerting the defense to relevant information about their backgrounds.

These requirements would align with open discovery rules implemented in states like North Carolina. North Carolina specifically requires prosecutors to make available "any test or examination results, [and] all other data, calculations, or writings of any kind" when any matter or evidence was submitted for testing.¹¹² Such materials "includ[e], but [are] not limited to, preliminary test or screening results and bench notes."¹¹³ North Carolina also requires prosecutors to give notice to

¹⁰⁷ For a discussion of cases when the prosecution failed to provide such disclosures, see Giannelli, *supra* note 105, at 806–07 (discussing a case where an expert testified that he alone completed all forensic testing, yet "[p]osttrial disclosure" of documents not disclosed before trial "revealed the participation of other analysts and a discrepancy in results").

¹⁰⁸ See *supra* notes 43–50 and accompanying text.

¹⁰⁹ See *supra* note 70 and accompanying text.

¹¹⁰ See *Regulating Bite Mark Evidence*, *supra* note 10, at 1783–84, 1786–1793 (discussing Dr. West's role in the wrongful convictions of Kennedy Brewer for rape and murder and Leigh Stubbs and Tammy Vance for sexual assault).

¹¹¹ *Id.* at 1815.

¹¹² N.C. Gen. Stat. § 15A-903(a)(1).

¹¹³ *Id.* This differentiates North Carolina's open-file rules from Rule 16 of the Federal Rules of Criminal Procedure, which "does not authorize the discovery or inspection of reports, memoranda, or other internal government documents made

defendants of any expert witness's curriculum vitae, opinion, and the underlying basis of that opinion when they plan to call the expert at trial.¹¹⁴ That North Carolina implemented such a rule indicates it is a reasonable requirement for prosecutors.

The rule would also effectuate the purposes of *Brady* and Rule 3.8 in cases involving forensic evidence. Both rules require prosecutors to disclose evidence helpful to the defendant's case. But it is unclear how often *Brady* is violated because exculpatory evidence does not always come to light.¹¹⁵ Rule 3.8's disclosure requirement sets a slightly higher bar than *Brady*, but it is not strictly enforced.¹¹⁶ The proposed disclosure rule would leave less room for discretion than *Brady* and rules of criminal procedure like Rule 16. It specifically requires the prosecution to disclose all information relevant to forensic testimony—including, for example, the results of all lab tests and analysts' notes on them—rather than only the test results or data the prosecutor decides to introduce at trial or deems material.¹¹⁷ And because the proposed rule mandates particular disclosures, it would also be more straightforward to enforce than Rule 3.8's broad and generally applicable disclosure requirement.

Where scientific validity is in question, prosecutors should be ethically obligated to make all relevant information available. Because scientific reliability depends on objective analysis, both parties must be

by an attorney for the government or other government agent in connection with investigating or prosecuting the case," except for materials enumerated in Rule 16. FED. R. CRIM. P. 16(a)(2). Further, the proposed ethical rule may admittedly conflict with the Jencks Act in federal prosecutions. The Act provides that "no statement or report in the possession of the United States which was made by a Government witness or prospective Government witness (other than the defendant) shall be the subject of subpoena, discovery, or inspection until said witness has testified on direct examination in the trial of the case." 18 U.S.C. § 3500(a). Yet the broad disclosure requirement in the ABA's Model Rule 3.8(d) is already in tension with the Jencks Act. *See generally* Kirsten Schimpff, *Rule 3.8, the Jencks Act, and How the ABA Created a Conflict Between Ethics and the Law on Prosecutorial Disclosure*, 61 AM. U. L. REV. 1729 (2012).

¹¹⁴ N.C. Gen. Stat. § 15A-903(a)(2).

¹¹⁵ *See* Kozinski, *supra* note 1, at xxii–xxvii (explaining the dynamics of *Brady* violations and mentioning the possibility that there are many undiscovered *Brady* violations).

¹¹⁶ *See* Lisa M. Kurcias, *Prosecutor's Duty to Disclose Exculpatory Evidence*, 69 FORDHAM L. REV. 1205, 1217–18 (2000).

¹¹⁷ *See* Giannelli, *supra* note 105, at 808 (discussing how Rule 16 only requires disclosure of reports from experts whom the prosecution plans to call as witnesses—or reports the prosecution deems material—even though a scenario where the prosecutor receives an expert's report and chooses *not* to call her at trial is "the most intriguing situation from a defense perspective").

equally positioned to engage in such analysis. Whatever objections the DOJ had to the proposed Ethics 2000 Commission rule requiring disclosure of information that might impeach a government witness should not apply to forensic experts.¹¹⁸ Reliable outcomes in an adversarial system require both parties to subject the methodologies and data underlying expert opinions to rigorous analysis. A full disclosure requirement would thus further the purpose of already-existing disclosure rules in the forensic context.

For similar reasons, the rule would effectuate Rules 3.3 and 3.4's emphases on candor and fairness. Unreliable forensic evidence is not readily susceptible to being characterized as false,¹¹⁹ even if a prosecutor knows an expert's testimony could mislead the jury. Full disclosure of the information the prosecutor knows about the forensic method and its application to the case at hand would ensure candor toward the tribunal regarding the forensic testimony. And because defendants often lack the capacity to conduct their own investigations and scientific analyses, requiring broad disclosure from prosecutors promotes fair competition in the adversarial system.

2. *Prohibition on Introducing Unreliable Expert Testimony*

A prohibition on introducing unreliable expert testimony would help shift the burden of determining the reliability of forensics onto the state and affirm the prosecutor's role as a minister of justice. While the word "reliable" would reference the *Daubert* factors,¹²⁰ the proposed rule would not impose sanctions on prosecutors for introducing experts whose testimony was or should have been excluded under *Daubert*. Rather, the proposed rule would require prosecutors to use reasonable diligence to determine whether the expert testimony, if introduced, would provide reliable information for the fact-finder. Prosecutors who possessed a good faith belief based on a diligent inquiry that they introduced an expert with a reliable methodology would remain free from sanction. Mirroring *Daubert*, the rule would also require the prosecutor to have possessed this belief as to the method's application in the case.¹²¹

¹¹⁸ See Kuckes, *supra* note 90 and accompanying text.

¹¹⁹ See *In re Richards* (Richards I), 55 Cal. 4th 948, 961 (2012) (explaining why, for the purposes of California's habeas statute at the time, expert testimony subsequently recanted as faulty did not constitute "false evidence"). The California Supreme Court reversed the conviction in 2016 after California amended its habeas statute to cover subjective expert testimony as false evidence that could permit release. *In re Richards*, 63 Cal. 4th 291 (2016).

¹²⁰ See *supra* notes 34–35 and accompanying text.

¹²¹ See *Daubert*, 509 U.S. at 592–93 (explaining that Rule 702 of the Federal Rules of Evidence requires an "assessment of whether the reasoning or

To comply with this rule, the government would need to independently research the reliability of methodologies they plan to introduce in court. The rule would require an investigative effort similar to that which prosecutors would make if the defense objected to the expert's admissibility. The rule's object is to ensure prosecutors genuinely consider updated research on methodologies and their reliability instead of relying only on court precedent or assumptions that defendants will not object. While it would not make bite mark analysis *per se* unethical for positive identifications, it would put pressure on the government to seriously consider how reliably the method could apply.

This requirement would shift the burden of investigating forensic evidence from defendants onto the state. Because criminal defendants and their attorneys often lack the resources to conduct their own scientific inquiries,¹²² prosecutors—who wield the power of the state—should use that power to make independent determinations of the validity of forensic methods before putting them forward. These determinations would also help keep courtroom science updated. Because courts rely on precedent, they are poorly positioned to apply the latest scientific research to reliability determinations.¹²³ This rule would put the state's resources to work in making such determinations.

The rule would also effectuate the prosecutor's role under Rule 3.8.¹²⁴ Because prosecutors are interested in seeing justice done, they should only introduce evidence that they believe is reliable.¹²⁵ This rule would require the government to develop more rigorous policies for the use of forensic science. While reports like the PCAST's from 2016¹²⁶ should not conclusively lead to sanctions whenever a prosecutor relies on the methods they criticize, prosecutors should represent the government's interest in doing justice by developing robust policies that regulate what forensic evidence is appropriate. An ethical rule would create an imperative for prosecutors to do so.

CONCLUSION

This article made the case for ethical rules targeting prosecutors' use of forensic testimony. The article illustrated the need for such rules through a specific analysis of bite mark testimony. While the issues that

methodology underlying the [expert's] testimony is scientifically valid and of whether that reasoning or methodology properly can be applied to the facts in issue").

¹²² See *supra* notes 43–50 and accompanying text.

¹²³ See *supra* Part III.

¹²⁴ See *supra* notes 89–98 and accompanying text.

¹²⁵ See *supra* notes 89–98 and accompanying text.

¹²⁶ See *supra* note 25.

the ethical rules would address can be covered by rules of criminal procedure—like North Carolina’s N.C. Gen. Stat. § 15A-903—or disclosure requirements under *Brady*, ethical rules would put independent pressure on prosecutors to act as gatekeepers for what forensic evidence they use to prosecute defendants. The rules also provide a meaningful ethical floor for the use of forensic testimony in prosecutions that aligns with the goals of Rule 3.8 and generally applicable ethical rules concerning evidence and witness testimony.

These rules would help prevent future wrongful convictions that result from faulty forensics. Deploying flawed forensic methods like bite mark analysis to convict defendants without open disclosure of the underlying science *is* unethical. Given the prevalence of forensic testimony in courtrooms, the ethical rules should reflect that.