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ARTICLE

EXCITED DELIRIUM, POLICING, AND THE LAW OF EVIDENCE

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EXCITED DELIRIUM, POLICING, AND THE LAW OF EVIDENCE

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Police use of force continues to be a significant problem in American law and society. Recent discussions have focused on doctrinal issues such as what type of force is considered "reasonable" under the Fourth Amendment and the propriety of qualified immunity as a defense that can shield law enforcement from civil litigation. However, there has been little commentary on how these and other legal questions might be informed by medicine — specifically, victim diagnoses that might effectively absolve officers from criminal prosecution or civil liability. One prominent example concerns excited delirium, which is thought to be a psychiatric issue characterized by the acute onset of extreme agitation that can become so severe that someone might die spontaneously, on their own, without anyone to blame except the person's own mental condition. This diagnosis has been used by coroners, medical examiners, forensic pathologists, and law enforcement to suggest that some deaths in police custody occur not because the decedent was subject to unlawful force, but because the mysterious onset of a psychiatric illness led them to die suddenly. But there are significant problems with this claim. Notably, since its inception in the 1980s, researchers have found little evidence that this medical condition exists. This lack of proof leads to a critical question: How did law become so welcoming to excited delirium when medical and scientific communities continue to have serious reservations?

This Article provides the first empirical assessment of how excited delirium has been treated as an evidentiary matter within federal courts. In doing so, it explores how federal courts deploy Federal Rule of Evidence 702 to understand the claims made by expert witnesses in cases regarding the admissibility of excited delirium as a medical diagnosis that might explain deaths in police custody. The findings show that excited delirium often enters evidentiary proceedings as a contested medical concept. Yet, through the machinations of the law of evidence, these claims exit courtroom proceedings as legally relevant facts. How this transmutation happens, and the evidentiary moves that make it possible, highlight the extent to which legal doctrine can settle an otherwise unsettled — if not wholly discredited — area of medicine to make deaths in police custody seem natural, blameless, and unproblematic. Understanding how the law of evidence contributes to concealing what might otherwise be seen as unreasonable uses of force is critical for ongoing discussions concerning police reform.

INTRODUCTION

Two days before Christmas in 2020, the Quinto family of Antioch, California, was in a desperate situation. Angelo Quinto, a thirty-

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year-old Navy veteran, was suffering from a mental health crisis.[1] Earlier that year, Quinto had been assaulted and experienced a traumatic brain injury, which led him to have episodes of paranoia — one of which seemed to be occurring that December evening.[2] Quinto began acting aggressively, and the family called 911 for help.[3] When police arrived, Quinto's family said that his mother was holding him in her arms and that he was calm.[4] Officers Perkinson and Becerra grabbed Quinto from his mother and pinned him face down on the ground.[5] While Quinto "pleaded 'please, don't kill me,'" the officers put Quinto in a prone restraint.[6] His hands were handcuffed behind his back and his legs were crossed and bent backward.[7] According to the Quintos, officers then held Quinto down by keeping a knee pressed behind his neck over a period of five minutes[8] — a situation not unlike what happened to George Floyd in Minneapolis, Minnesota, earlier that year.[9] Quinto became unresponsive.[10] When the officers "flipped [him] over, . . . blood [had] pooled [under]neath his face."[11] Quinto was taken by ambulance to Sutter Delta Medical Center, where he later died.[12]

Shortly after the death, the local coroner's office performed an autopsy, and determined that Angelo Quinto died because of "Excited Delirium Syndrome due to Acute Drug intoxication" — referencing a diagnosis that the District Attorney described as a "physiologic response seen in arrest related death[] . . . scenarios, in which the decedents experienc[e] drug intoxication, exhaustion, [or] pre-existing physical or psychiatric conditions, all of which may trigger fatal cardiac

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[1] *Death of Antioch Man in Police Custody to Be Reviewed by California Attorney General*, ABC10 (Sept. 7, 2022, 6:39 PM), https://www.abc10.com/article/news/local/california-ag-reviewing-death-of-antioch-man/103-53e06d56-e2f0-478a-987d-790f7b7cda62 [https://perma.cc/YW6A-56HH].

[2] *Id.*

[3] Andie Judson, *What Is Excited Delirium and Why Is It the Cause of Death for Many Restrained by Police?*, ABC10 (Feb. 8, 2024, 2:02 PM), https://www.abc10.com/article/news/local/what-is-excited-delirium-cause-of-death-for-many-restrained-by-police/103-5fe9aad0-8036-4012-a5e5-9d66f2ec1747 [https://perma.cc/9N7B-T67S].

[4] Olga R. Rodriguez, *Family of Man Killed After Police Put Knee to His Neck Sues*, ASSOCIATED PRESS (Aug. 9, 2021, 10:26 PM), https://apnews.com/article/health-police-feedab074748684c606085a19458ab02 [https://perma.cc/GG3L-H9HA].

[5] *Id.*

[6] *Id.*

[7] *Id.*

[8] *Id.*

[9] *See* Evan Hill et al., *How George Floyd Was Killed in Police Custody*, N.Y. TIMES (Jan. 24, 2022), https://www.nytimes.com/2020/05/31/us/george-floyd-investigation.html [https://perma.cc/V38B-PWN2].

[10] Rodriguez, *supra* note 4.

[11] Judson, *supra* note 3.

[12] Bryan Ke, *Family of Navy Veteran Files Wrongful Death Lawsuit Against Antioch PD, Accuses Chief of Cover-up*, YAHOO! NEWS (Aug. 11, 2021, 5:18 PM), https://www.yahoo.com/news/family-navy-veteran-files-wrongful-211812506.html [https://perma.cc/TH7G-LTWG].

arrhythmias."[13] Put differently, the coroner's office concluded that Angelo Quinto died due to *psychosomatic* problems that led him to become so physically agitated, he simply died on his own with no one else to blame.

This finding shocked the Quinto family, who had watched Quinto's brutal treatment by the police. Confused by the idea that only Quinto was responsible for his death, the family had a second autopsy performed by Dr. Bennet Omalu.[14] Omalu found that Quinto's eyes showed evidence of *petechial hemorrhages*[15] — signs of asphyxiation where strangulation leads blood capillaries in the eyes to burst.[16] While being deposed, Dr. Ikechi Ogan, the first pathologist who made the excited delirium diagnosis, "was shown a photo of Quinto's eyes."[17] Ogan agreed, on the record, that the unusual hemorrhages in Quinto's eyes were clearly visible.[18] Yet the autopsy report failed to mention "key signs" of Quinto's asphyxiation.[19]

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Twenty-three-year-old Elijah McClain left a convenience store in Aurora, Colorado, one summer evening in 2019.[20] As the small-framed Black man walked down the street, "someone called 911" because they believed that McClain "looked sketchy" since he "was wearing a ski mask" and appeared to be acting erratically.[21] When McClain was confronted by three officers, he tried to explain that he did not mean to cause any trouble.[22] He pled with them, saying, "I am an introvert . . . . Please respect my boundaries," "I'm just different," and "I don't even

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13 DIANA BECTON, CONTRA COSTA CNTY. DIST. ATT'Y'S OFF., REPORT OF THE LAW ENFORCEMENT INVOLVED FATAL INCIDENT IN-CUSTODY DEATH OF ANGELO VOITHUGO QUINTO ON DECEMBER 24, 2020, at 29 & n.13 (2020) (footnote omitted).

14 *See* Joshua Sharpe, *"The Other Victim Is the Truth": A Navy Veteran's Family Says New Evidence Shows He Suffocated Under Police Officers' Weight*, S.F. CHRON. (Mar. 16, 2023, 6:18 PM), https://www.sfchronicle.com/bayarea/article/excited-delirium-17832243.php [https://perma.cc/5557-EV5G].

15 *Id.*

16 *See* T. Plattner et al., *Forensic Assessment of Survived Strangulation*, 153 FORENSIC SCI. INT'L 202, 203 (2005) (explaining that petechiae "are the result of a congestion . . . of venous blood-flow and rupture of capillaries" and "must be regarded as a strong indicator for a long and fierce assault").

17 Sharpe, *supra* note 14.

18 *Id.*

19 *Id.*

20 Lucy Tompkins, *Here's What You Need to Know About Elijah McClain's Death*, N.Y. TIMES (Oct. 13, 2023), https://www.nytimes.com/article/who-was-elijah-mcclain.html [https://perma.cc/ZP3R-FDAC].

21 *Id.*

22 Alexander Nazaryan, *"I'm Just Different": The Family of Elijah McClain, A 23-Year-Old Black Man Killed by Colorado Cops Almost a Year Ago, Is Still Waiting for Justice*, YAHOO! NEWS (June 27, 2020), https://www.yahoo.com/video/im-just-different-the-family-of-elijah-mc-clain-a-23-yearold-black-man-killed-by-colorado-cops-090048258.html [https://perma.cc/VK3E-JETE].

kill flies" to prove that he was not dangerous.[23] Nevertheless, the officers proceeded to restrain McClain, placing him in a chokehold and putting him in handcuffs.[24] During this struggle, McClain told the officers he was having difficulty breathing and then vomited and apologized to the officers.[25]

Paramedics arrived and determined in that moment that McClain's visible agitation was a sign that he was suffering from "excited delirium."[26] The paramedics injected him with ketamine — a potent drug with a sedative effect that is increasingly given to people thought to exhibit this condition.[27] This approach to "treating" excited delirium is not uncommon, and using chemical restraints is thought by some to be a less harmful alternative to physical force.[28] But "body camera footage shows that [the dose of ketamine] made [McClain's] body go limp when he was loaded onto a gurney."[29] While being transported to the hospital in an ambulance, McClain experienced cardiac arrest and passed away shortly afterwards.[30]

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Waters v. Coleman,[31] a 2015 decision from the Tenth Circuit Court of Appeals, concerned the death of Alonzo Ashley, who was killed during a struggle with police at the Denver Zoo.[32] After being confronted by police for allegedly attacking a security officer, Ashley began walking toward the zoo exit.[33] Another officer noticed that Ashley was sweating heavily, which the federal judges on the Tenth Circuit described in their opinion as "a symptom of a physiological condition known as *excited delirium*," that "often [makes it] impossible to control [these] individuals . . . using traditional pain compliance techniques."[34] Ashley stopped and moved toward the officers, who then tried to put

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[23] *Id.*

[24] *Id.*

[25] Tompkins, *supra* note 20.

[26] Nazaryan, *supra* note 22.

[27] *Id.*; *see also, e.g.*, Michael de Yoanna & Rae Solomon, *Medics in Colorado Dosed 902 People with Ketamine for "Excited Delirium" in 2.5 Years*, KUNC (July 21, 2020, 5:35 PM), https://www.kunc.org/news/2020-07-21/medics-in-colorado-dosed-902-people-with-ketamine-for-excited-delirium-in-2-5-years [https://perma.cc/6H4B-NEPH].

[28] For a discussion of the use of ketamine and other chemical restraints during police interactions with civilians, see Osagie K. Obasogie & Anna Zaret, *Medical Professionals, Excessive Force, and the Fourth Amendment*, 109 CALIF. L. REV. 1, 56–57 (2021).

[29] Tompkins, *supra* note 20.

[30] *Id.*; Kiara Alfonseca, *Officers, Paramedics Plead Not Guilty in Connection with Death of Elijah McClain*, ABC NEWS (Jan. 20, 2023, 4:56 PM), https://abcnews.go.com/US/officers-paramedics-arraigned-connection-death-elijah-mcclain/story?id=96561629 [https://perma.cc/6988-DFNT].

[31] 632 F. App'x 431 (10th Cir. 2015).

[32] *Id.* at 433.

[33] *Id.*

[34] *Id.* (emphasis added) (quoting Waters v. City & County of Denver, No. 12-cv-01856, 2014 WL 11269945, at *5 (D. Colo. Sept. 30, 2014)).

Ashley's arms behind his back.[35] Punches were exchanged.[36] The officers then used tasers multiple times and physically restrained Ashley.[37] Ashley was taken "to the hospital, where he was pronounced dead."[38]

Ashley's family brought a federal civil rights lawsuit against the officers for violating his constitutional right to be free from excessive force.[39] However, the Tenth Circuit held that the officers were entitled to qualified immunity for the acts they took to restrain Ashley.[40] This decision meant the officers could not be sued for these acts, since existing laws did not prevent officers from using such force against someone who was suffering from excited delirium.[41] The court concluded that "it would not have been clear to a reasonable officer that the conduct at issue might be unlawful in these circumstances."[42]

* * *

Police use of force and accountability have been important topics over the past few years as the public grapples with what many have described as a "racial reckoning"[43] following several deaths of unarmed Black people in police custody that were filmed by bystanders and distributed on social and legacy media.[44] Much of the conversation in the law literature has focused on exploring doctrinal questions such as how the Fourth Amendment structures conversations about the reasonableness of police force, which can inform whether an officer might be held civilly or criminally responsible.[45] Yet, there has been little discussion about how doctrinal assessments regarding reasonableness can be complicated by medical diagnoses that are used to suggest

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[35] *Id.*

[36] *Id.*

[37] *Id.*

[38] *Id.* at 434.

[39] *Id.*

[40] *Id.* at 442.

[41] *Id.* at 438; *see also id.* at 436–37.

[42] *Id.* at 438.

[43] *E.g.*, Ailsa Chang et al., *Summer of Racial Reckoning*, NPR (Aug. 16, 2020, 9:00 AM), https://www.npr.org/2020/08/16/902179773/summer-of-racial-reckoning-the-match-lit [https://perma.cc/8Y68-G6C4]; *Looking Back at a Year-Long Racial Reckoning Since George Floyd's Killing*, PBS NEWS HOUR (May 25, 2021, 6:52 PM), https://www.pbs.org/newshour/show/looking-back-at-a-year-long-racial-reckoning-since-george-floyds-killing [https://perma.cc/TQQ5-3ZJK].

[44] *See, e.g.*, Hill et al., *supra* note 9; Josh Sanburn, *Behind the Video of Eric Garner's Deadly Confrontation with New York Police*, TIME (July 23, 2014), https://time.com/3016326/eric-garner-video-police-chokehold-death [https://perma.cc/W98E-GZJJ]; Michael S. Schmidt & Matt Apuzzo, *South Carolina Officer Is Charged with Murder of Walter Scott*, N.Y. TIMES (Apr. 7, 2015), https://www.nytimes.com/2015/04/08/us/south-carolina-officer-is-charged-with-murder-in-black-mans-death.html [https://perma.cc/8CVY-HM35].

[45] *See generally, e.g.*, Osagie K. Obasogie & Zachary Newman, *Colorblind Constitutional Torts*, 95 S. CAL. L. REV. 1137 (2022); Joanna C. Schwartz, *Qualified Immunity's Boldest Lie*, 88 U. CHI. L. REV. 605 (2021).

that decedents died from preexisting conditions rather than the use of force. One such diagnosis is *excited delirium*, which is often used to suggest that some deaths in police custody result *not from the force that was used*, but from self-induced agitation and physical stress stemming from a psychiatric condition that can lead some people to die spontaneously, through no one's fault but their own. The vignettes at the outset of this Article highlight several instances where excited delirium has been invoked to explain the deaths of people in police custody, and how this "disease" has been positioned to deflect attention away from questions about the reasonableness of the force used and toward evaluating the decedents' mental health. For example, as described above with respect to the Tenth Circuit's decision in *Waters v. Coleman*, federal courts have used excited delirium diagnoses to shape their determinations of whether police officers can face civil liability under 42 U.S.C. § 1983.[46]

Law's deference to this medical diagnosis is curious, particularly since excited delirium does not seem to be a real health condition. In fact, excited delirium is a deeply contested concept among researchers and clinicians. Professional bodies such as the American Psychiatric Association[47] and the American Medical Association[48] have made public statements on how excited delirium is not an appropriate term or diagnosis. Similarly, two of the main medical guidebooks on identifying and diagnosing psychiatric disorders — the Diagnostic and Statistical Manual of Mental Disorders ("DSM-5") and the International Classification of Diseases ("ICD-11") — do not recognize the term as a legitimate disorder or medical condition.[49] This professional distancing from the concept reflects a finding easily observable in peer-reviewed scientific and clinical literature: There is little scientific evidence to support excited delirium as a legitimate medical claim and virtually no research that identifies a clear pathology on how this psychiatric condition, even if real, could cause death.[50]

This tension between law's regular acceptance of excited delirium and medicine's deep skepticism gives rise to a question explored in this Article: *How* has law come to a seemingly settled understanding of a disease that science and medicine largely view as demonstrably

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[46] *Coleman*, 632 Fed. App'x at 436–37.

[47] AM. PSYCHIATRIC ASS'N, POSITION STATEMENT ON CONCERNS ABOUT USE OF THE TERM "EXCITED DELIRIUM" AND APPROPRIATE MEDICAL MANAGEMENT IN OUT-OF-HOSPITAL CONTEXTS (Dec. 2020), https://www.psychiatry.org/getattachment/7769e617-ee6a-4a89-829f-4fc71d831ce0/Position-Use-of-Term-Excited-Delirium.pdf [https://perma.cc/7XLP-N24N].

[48] Press Release, Am. Med. Ass'n, New AMA Policy Opposes "Excited Delirium" Diagnosis (June 14, 2021), https://www.ama-assn.org/press-center/press-releases/new-ama-policy-opposes-excited-delirium-diagnosis [https://perma.cc/7SXW-G6SF].

[49] *See generally* AM. PSYCHIATRIC ASS'N, DIAGNOSTIC AND STATISTICAL MANUAL OF MENTAL DISORDERS (5th ed. 2013); WORLD HEALTH ORG., INTERNATIONAL CLASSIFICATION OF DISEASES (11th ed. 2019).

[50] *Infra* notes 105–119 and accompanying text.

unsettled, if not wholly unsupported? To be sure, there are many instances where medical or scientific evidence becomes part of legal disputes in which judges and juries assess the weight and importance of the evidence in relation to the facts of the case.[51] But the issue of excited delirium stands apart from other discussions concerning the role of science in legal decisionmaking. Questions regarding excited delirium are distinct from those pertaining to the admissibility of other types of scientific or medical testimony such as DNA evidence. This distinction exists because there are no established standards for determining excited delirium, nor are there any minimal agreed-upon principles shared among professionals. From the perspective of the long history of forensic sciences and expert witness testimony,[52] the evidentiary support for excited delirium is much closer to that of the highly questioned (and often discredited) "first generation"[53] of forensics (such as bite mark analysis and fingerprinting[54]) than the more "robust . . . second generation,"[55] such as DNA typing.[56] Given excited delirium's methodological and evidentiary proximity to a collection of first-generation forensic practices that many frown upon, how is it that federal courts continue to allow — if not fully support — the use of excited delirium in cases concerning police use of force?

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[51] For a brief overview of the history and contemporary applications of law in relation to forensic science and expert testimony, see generally NAT'L RSCH. COUNCIL, STRENGTHENING FORENSIC SCIENCE IN THE UNITED STATES (2009); TERRENCE F. KIELY, FORENSIC EVIDENCE (2d ed. 2005); DAVID L. FAIGMAN ET AL., MODERN SCIENTIFIC EVIDENCE (2023–2024 ed.). For modern examples of this ongoing debate, see Aziza Ahmed, *Floating Lungs: Forensic Science in Self-Induced Abortion Prosecutions*, 100 B.U. L. REV. 1111, 1136–49 (2020); Keith A. Findley et al., *Feigned Consensus: Usurping the Law in Shaken Baby Syndrome/Abusive Head Trauma Prosecutions*, 2019 WIS. L. REV. 1211, 1254–62.

[52] Professor Erin Murphy has identified two distinct eras of forensic sciences. *See* Erin Murphy, *The New Forensics: Criminal Justice, False Certainty, and the Second Generation of Scientific Evidence*, 95 CALIF. L. REV. 721, 726–30 (2007). Professor Murphy argues that the first generation of forensic techniques — traditional "analysis of bite and tool marks, hair and fiber, ballistics, handwriting, voice exemplars, and fingerprints" — had minimal utility and were "usually [used] in a supporting role to other forms of evidence like eyewitness testimony or the defendant's own confession." *Id.* at 726. The lacking scientific basis of these approaches has led them to be thought of with great skepticism due to what Murphy describes as their being (1) of "limited application"; (2) "observational, rather than technical or experimental" and "neither conceptually complicated nor scientifically rigorous," *id.*; (3) "mechanically unsophisticated" in "not employ[ing] complex interpretive machinery or instrumentation"; (4) "reactive and self-contained in their investigative scope," *id.* at 727; and (5) often too narrow to "implicate greater questions of personal privacy," *id.* at 728. On the other hand, Murphy says that "second-generation techniques" — typified by DNA typing but also including "data mining, location tracking . . . , and biometric scanning," *id.* — share different traits: They (1) have wide applicability to a range of cases, *see id.*; (2) are based on robust scientific principles, *see id.* at 729; (3) have both "methodological" and "mechanical sophistication," *id.*; and (4) "rely upon computerized databases to store large quantities of information," *id.* at 730.

[53] *Id.* at 722.

[54] *Id.* at 724.

[55] *Id.* at 725.

[56] *Id.* at 726–30.

This Article explores these critical questions at the intersection of law and medicine. Part I provides a brief primer on excited delirium, its history and usage in police use of force cases, and arguments that law enforcement and some researchers have made for it as a valid explanation for some deaths in police custody. Part II then takes a closer look at the rules and doctrines concerning expert witness testimony and the admission of scientific evidence into federal courts as a way to situate the broader question that is taken up in Part III: How does excited delirium, a fringe idea within medicine with a deeply questionable origin story, enter legal discussions on police use of force and become a seemingly legitimate medical diagnosis to explain deaths in police custody? To do this, Part III looks at how expert witnesses use excited delirium in federal courts by engaging in an empirical examination that evaluates legal shifts in how this purported medical condition is discussed in the context of claims concerning police use of force, from its first articulation in federal case law in 1998 until 2023. This qualitative assessment unearths early conversations concerning excited delirium in evidentiary proceedings to show how, over time, the rules of evidence came to allow testimony not generally accepted within medicine to morph into legal claims that shape federal courts' evaluations of use of force cases. By treating its gatekeeping function in relation to expert witness testimony as a *procedural inquiry* — that is, as a process or series of boxes to check — instead of embarking on a deep assessment of the evidence and its broader implications, law has come to give excited delirium much more credibility than science or medicine ever has.

Through a detailed case-by-case examination of early disputes where excited delirium was first brought in front of federal courts, this Article shows how we have landed at a rather awkward moment when legal decisions and subsequent reliance on them as precedent are seen as more relevant to questions about the legitimacy of this medical diagnosis than the scientific research itself — at least in courtrooms where police have been accused of using excessive force. This phenomenon has tremendous implications for how we think about doctrinal rules surrounding expert witnesses, as well as basic notions of justice and accountability, in relation to both civil and criminal adjudications concerning police use of force. Part IV proposes three policy recommendations for how, considering the discussion in Part III, law should respond to both the particular issue of excited delirium in the courtroom and expert witness testimony more broadly — especially as scientific and medical evidence continue to shape legal debates and outcomes regarding police use of force.

I. PRIMER ON EXCITED DELIRIUM[57]

A. Origins of a Diagnosis

The death of a medical examiner does not often make the pages of the *New York Times*. But Charles Wetli was not the average pathologist. Wetli, described by the newspaper as "a pioneer in the field of forensic pathology," was also the Chief Medical Examiner of Suffolk County, New York, when Trans World Airlines Flight 800 exploded shortly after takeoff from John F. Kennedy International Airport in 1996 and crashed into the Atlantic Ocean, killing all 230 passengers and airline staff on board.[58] While Wetli was initially criticized for how he handled the investigation,[59] he ultimately is remembered by many as a visionary who did a remarkable job in the face of unprecedented conditions.[60]

But this was not Wetli's only, or even most lasting, contribution to the field of forensic pathology. The *New York Times* obituary notes that "[a]mong other areas, he became an expert on deaths in police custody" — but the story does not go into detail.[61] It would not be an overstatement to describe Wetli as the father of excited delirium. Prior to becoming the Chief Medical Examiner of Suffolk County, Wetli spent seventeen years as the Deputy Chief Medical Examiner in Dade County, Florida.[62] Early during his tenure in Dade County, Wetli observed an increase in drug overdose deaths.[63] In a 1981 article in the *Annals of*

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[57] Portions of this Part were first discussed in Osagie K. Obasogie, *Excited Delirium and Police Use of Force*, 107 VA. L. REV. 1545, 1583–92 (2021).

[58] Katharine Q. Seelye, *Charles Wetli, Medical Examiner for T.W.A. Flight 800 Crash, Dies at 76*, N.Y. TIMES (Sept. 7, 2020), https://www.nytimes.com/2020/08/16/obituaries/charles-wetli-dead.html [https://perma.cc/4FLF-37UX].

[59] *Id.* ("When the bodies were not immediately recovered and identified, family members directed their fury at Dr. Wetli. They worried that swift action regarding their loved ones had become secondary to the retrieval of forensic evidence for a criminal investigation. Beyond that, families and politicians accused him of making blunders that only compounded their grief: He did not immediately work around the clock, he initially refused the help of pathologists from other jurisdictions, and he did not allow most family members to see what remained of their loved ones.").

[60] Christine Negroni, author of the book *Deadly Departure*, which chronicles the crash and its aftermath, *see generally* CHRISTINE NEGRONI, DEADLY DEPARTURE: WHY THE EXPERTS FAILED TO PREVENT THE TWA FLIGHT 800 DISASTER AND HOW IT COULD HAPPEN AGAIN (2001), noted after Wetli's death that:

> If it was hard for people to recognize 25 years ago that sometimes science takes time, it is even harder in the new century's *everything-in-a-minute* culture. Dr. Wetli should be remembered as a pioneering forensic physician who assembled an array of dentists, X-ray technicians, pathologists[,] and tiny samples of DNA to put a name on every bit of human remains recovered.
>
> In the end, it took 13 months for Dr. Wetli to lead the way for more comprehensive and yes, probably faster identifications.

Christine Negroni, *Controversial Doctor Who Identified TWA 800 Victims Dies*, CHRISTINE NEGRONI: FLYING LESSONS BLOG (Aug. 2, 2020), https://christinenegroni.com/controversial-doctor-who-identified-twa-800-victims-dies [https://perma.cc/3GFP-QUTF].

[61] Seelye, *supra* note 58.

[62] *Id.*

[63] *See id.*

Emergency Medicine, Wetli and his colleague David A. Fishbain published a case study of a singular incident of what they then called "acute cocaine delirium."[64] In that instance, a thirty-one-year-old man who had ingested drugs to smuggle them into the country was taken to the emergency room.[65] He was initially "anxious . . . [but showed] no acute distress,"[66] and then "became progressively more agitated, hyperactive, confused, disoriented, and incoherent. He began screaming obscenities, threatened staff, and ran through the halls spitting at people."[67] This behavior led to a diagnosis of "toxic psychosis of unknown etiology," and the patient died three-and-a-half hours after arriving at the hospital.[68] In this instance, the authors attributed the cause of the patient's psychiatric delirium to ingesting a toxic and eventually deadly amount of cocaine and concluded their paper by noting that "[t]he cardinal rule of treatment for delirium is to identify its cause and to remove this cause by appropriate medical and surgical techniques."[69]

As the 1980s party era progressed, epitomized by dancing and using narcotics, Wetli observed a growing number of drug overdoses — particularly with decedents who had shown signs of extreme agitation and rage before suddenly dying.[70] Unlike the autopsy done on the patient in the 1981 article, the autopsies from these deaths showed that while cocaine was in the decedents' systems, the drug was not present in an amount typically thought to be able to cause death.[71] The profile that Wetli came up with at the time was that "[i]t only happened in chronic users of cocaine, and predominantly in males . . . . It's as if they're impervious to pain — to pepper spray, to batons, to numchucks [sic]. You spray them with pepper spray and they just sort of look at you."[72]

Wetli and Fishbain identified seven cases in South Florida that fit this profile from 1983 to 1984.[73] That study of seven incidents — not exactly what most scientists would call a large dataset — was published

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[64] David A. Fishbain & Charles V. Wetli, *Cocaine Intoxication, Delirium, and Death in a Body Packer*, ANNALS EMERGENCY MED., Oct. 1981, at 531, 531.

[65] *Id.* at 531.

[66] *Id.*

[67] *Id.* at 532.

[68] *Id.*

[69] *Id.*

[70] Gus Garcia-Roberts, *Is Excited Delirium Killing Coked-Up, Stun-Gunned Miamians?*, MIA. NEW TIMES (July 15, 2010), https://www.miaminewtimes.com/news/is-excited-delirium-killing-coked-up-stun-gunned-miamians-6367399 [https://perma.cc/NE53-38AC].

[71] *Id.*

[72] *Id.*

[73] *Id.*

in 1985 in the *Journal of Forensic Sciences*,[74] giving birth to "excited delirium" as a medical diagnosis.[75] The authors write:

> The signs of excited delirium most often noted were fear, panic, shouting, physical violence, hyperactivity, and thrashing (particularly after restraints were applied). Six of the seven exhibited unexpected strength, requiring several people to restrain them. Hyperthermia was noted in four of the seven, and mydriasis was noted twice. Physical restraints were required in all but one case.[76]

Interestingly, the authors note that "[p]ostmortem examination did not reveal any 'anatomic cause of death,' with the possible exception of Case 4."[77] Thus, as the authors emphasize, deaths by excited delirium are quite different from typical drug overdoses.[78] While cocaine use might precipitate excited delirium, it is the psychiatric condition that is thought to cause death rather than drug toxicity. The authors freely admit that "the exact mechanism of death in these cases of excited delirium is unknown,"[79] and put forth the idea that drug-induced agitation can lead to a mental psychosis so devastating that people can simply die suddenly due to their own mental condition *apart from drug abuse or external use of force*.[80]

B. Critiques and Concerns

Wetli and Fishbain's 1985 paper put excited delirium on the map as a seemingly legitimate medical diagnosis despite being based on largely anecdotal evidence from a small and unrepresentative sample. The authors did not provide any evidence of the pathways or mechanisms by which the rapid onset of a psychiatric disorder might, in a short amount of time, become the proximate cause of a person's death.

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[74] *See* Charles V. Wetli & David A. Fishbain, *Cocaine-Induced Psychosis and Sudden Death in Recreational Cocaine Users*, 30 J. FORENSIC SCIS. 873, 873 (1985).

[75] *See* Asia Takeuchi et al., *Excited Delirium*, 12 W. J. EMERGENCY MED. 77, 77 (2011) ("[T]he first modern mention of [excited delirium] was in 1985." (citing Wetli & Fishbain, *supra* note 74, at 873–80)).

[76] Wetli & Fishbain, *supra* note 74, at 874.

[77] *Id.* The authors note that "[s]pecifically excluded by autopsy and witness accounts was death from mechanical asphyxia. This includes asphyxiation because of improper positioning of the restrained patient and the application of law enforcement neck holds such as the 'carotid sleeper hold.'" *Id.* (quoting Donald T. Reay & John W. Eisele, *Death from Law Enforcement Neck Holds*, 3 AM. J. FORENSIC MED. & PATHOLOGY 253, 253 (1982)).

[78] *Id.* at 878–79 ("Although the deaths in this series were attributed to cocaine intoxication, they differ in several ways from the more typical cocaine overdose fatality. Generally, a fatal cocaine overdose is quite sudden and frequently preceded by generalized seizures followed by respiratory collapse. Prodromal symptoms of dysphoria or hyperthermia may also be present. Death following intravenous administration is generally due to a sudden respiratory collapse with no prodromal symptoms. None of the cases presented here had preterminal seizures, and the prodromal symptoms were those of excited delirium, not dysphoria. The average blood cocaine concentration in this series was 0.60 mg/L, as compared to an average peak therapeutic concentration of 0.31 mg/L in surgical patients and 6 mg/L in fatal cocaine overdoses." (footnotes omitted)).

[79] *Id.* at 879.

[80] *See id.* at 878.

Nevertheless, this idea shaped Wetli's professional work and conclusions as a medical examiner in Dade County. One example from Wetli's early work in South Florida stems from a series of suspicious deaths throughout the 1980s, where thirty-two Black women were found dead in various places in poor, Black neighborhoods in Miami.[81] The women "were often naked from the waist down and all showed signs of recently having had sex. . . . Most were prostitutes and chronic cocaine users."[82] Despite oddly specific commonalities among the victims, Wetli declared that the women were not murdered, but instead died from a variation of excited delirium.[83] Wetli told the *Miami New Times*: "My gut feeling . . . is that this is a terminal event that follows chronic use of crack cocaine affecting the nerve receptors in the brain."[84] By Wetli's speculative account, these women suffered from a version of excited delirium where "the combination of sex and . . . cocaine use" put them in an agitated state that led to their demise.[85] Connecting this account to his broader theory of excited delirium that focused on male drug use, Wetli stated that "[f]or some reason, . . . the male of the species becomes psychotic [after chronic cocaine use] and the female of the species dies in relation to sex."[86] Three years after Wetli made these comments, the county's Chief Medical Examiner (also Wetli's supervisor) "exhumed the bodies . . . and found evidence" showing that all of the women had been strangled.[87] These were not instances of excited delirium, but of a serial killer.[88] Police arrested Charles Henry Williams for these crimes, but he died before trial.[89] Nearly two decades after an arrest stemming from evidence that pointed directly at Williams as the killer, Wetli continued to have doubts that Williams committed these crimes. Instead, Wetli held on to the idea that excited delirium was the possible culprit.[90]

This episode highlights the dubious origins of excited delirium as a medical diagnosis and its questionable application in these early years. It also draws attention to the role that race — in particular,

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[81] Garcia-Roberts, *supra* note 70.

[82] *Id.*

[83] *Id.*

[84] *Id.*

[85] *Id.*

[86] *Id.* (second alteration in original).

[87] *Id.*

[88] *Id.*

[89] *Rapist, Murder Suspect Dies of AIDS*, TAMPA BAY TIMES (Oct. 7, 2005), https://www.tampabay.com/archive/1994/09/26/rapist-murder-suspect-dies-of-aids [https://perma.cc/427C-WDV5].

[90] *See* Garcia-Roberts, *supra* note 70. The *Miami New Times* contacted Wetli in 2010:

> Wetli . . . initially downplay[ed] his theory. He had to make a diagnosis so that the bodies could be buried, he sa[id]. But then it bec[ame] clear he still believe[d] that death-by-sex might have killed those women 20 years ago. "It's certainly a possibility," he sa[id]. "The guy never went to trial, so we'll never know. The police had a commendable theory in suspecting him. But believing in something, and proving it, is another story."

Id.

Blackness — has played in shaping medicine's imagination, giving rise to the possibility of such a diagnosis and its disproportionate application to racial minorities.[91] Indeed, notions of race and racism have been foundational to medicine[92] — especially to the field of psychiatry and to physicians' understandings of mental illness. Dating back to the antebellum South, physicians developed psychiatric theories such as *drapetomania* to explain what was then understood as some enslaved people's seemingly irrational or insane decision to run away from their captors, suggesting that mental illness, rather than a basic human desire for freedom, led them to break the law.[93] One can easily identify a thread of thought spanning from antebellum theories of race and mental health during slavery, to notions of inherent cognitive and emotional differences thought to explain racial disparities in criminality and incarceration,[94] to justifications for Jim Crow segregation in schools and other facilities, to psychiatric theories proposed during the 1960s to explain why Black people were engaged in ostensibly unreasonable political protests over their living conditions,[95] to theories such as excited delirium to explain Black people's propensity to spontaneously die in the presence of police.[96] In short, Blackness has been pathologized in

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[91] In a previous study, I found that "at least 56% of the deaths in [police] custody in [a] sample" of 166 cases that are thought to have resulted from excited delirium involved Black and Latinx arrestees. Obasogie, *supra* note 57, at 1595.

[92] *See generally* HARRIET A. WASHINGTON, MEDICAL APARTHEID: THE DARK HISTORY OF MEDICAL EXPERIMENTATION ON BLACK AMERICANS FROM COLONIAL TIMES TO THE PRESENT (2006) (describing how Black people often served as nonconsenting human subjects for nineteenth- and twentieth-century adventures in medical experimentation, which often amounted to torture). For example, Washington describes how Alabama surgeon J. Marion Sims, often described as the father of modern gynecology, developed many of his techniques and medical advances by using enslaved women without anesthesia, *see id.* at 2 — behavior that would have never been tolerated at the time if performed on white women.

[93] DOROTHY ROBERTS, FATAL INVENTION: HOW SCIENCE, POLITICS, AND BIG BUSINESS RE-CREATE RACE IN THE TWENTY-FIRST CENTURY 90 (2011) ("[Samuel] Cartwright coined the term *drapetomania* — combining Greek words for 'runaway slave' and 'crazy' — to describe the mental illness that caused blacks to abscond from bondage. Whites brought on the symptoms by 'trying to make the negro anything else than "*the submissive knee-bender*" (which the Almighty declared he should be) by trying to raise him to a level with himself, or by putting himself on an equality with the negro.' Cartwright diagnosed blacks with a second form of insanity he labeled *dysaesthesia aethiopis* — what overseers called rascality. This disease was characterized by a lack of respect for the master's property that resulted when blacks were not closely monitored by whites. According to Cartwright, it afflicted virtually all free Negroes and attacked those slaves who lived as if they were free by drinking too much and working too little. The cure Cartwright proposed to his white audience was to subject the deranged slaves to hard physical labor as well as harsh corporal punishment 'until they fall into that submissive state which it was intended for them to occupy.'" (quoting Samuel A. Cartwright, Chairman, Comm. Appointed by the Med. Ass'n of La., Report on the Diseases and Physical Particularities of the Negro Race (Mar. 12, 1851), *in* 7 NEW ORLEANS MED. & SURGICAL J. 691, 691, 707–09 (1851))).

[94] *See generally* NICOLE RAFTER ET AL., THE CRIMINAL BRAIN: UNDERSTANDING BIOLOGICAL THEORIES OF CRIME (2d ed. 2016).

[95] *See* JONATHAN M. METZL, THE PROTEST PSYCHOSIS: HOW SCHIZOPHRENIA BECAME A BLACK DISEASE, at xiii (2009).

[96] Obasogie, *supra* note 57, at 1550–51.

psychiatric medicine for centuries. This practice has provided a context for claims such as Wetli's that inherent cognitive deficiencies — rather than state violence — lead Black people to die in police custody. Excited delirium is, in many ways, a more recent iteration of longstanding theories of race in medicine used to render the State and the mode of production blameless in the violence and premature death experienced in Black communities.[97] This same pathologization of Blackness in medicine may explain how, in the context of police violence and accountability, the evidentiary bar for admissible expert witness testimony on excited delirium seems remarkably inconsistent.[98] It may very well be that pathological symmetries concerning Blackness are shared across law and medicine in ways that create a frictionless environment where ideas expressed in one arena are seamlessly accepted in another due to preexisting conceptual alliances with regard to how both fields have shared histories in thinking about Black people as inherently broken.[99]

Nevertheless, as excited delirium became popular among police officers facing claims that their use of force led to in-custody deaths, some researchers have attempted to fill excited delirium's evidentiary gap. For example, Professor Deborah Mash, considered by some to be Wetli's protégé,[100] has published research suggesting that some people have certain biomarkers that predispose them to being susceptible to excited delirium.[101] She goes to great lengths to suggest that the existence of such biomarkers places the responsibility for deaths in custody on the decedents, not the police.[102] Mash told the *Texas Observer* that "[t]hese

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[97] *See generally* RACISM AND PSYCHIATRY: CONTEMPORARY ISSUES AND INTERVENTIONS (Morgan M. Medlock et al. eds., 2019). For a more poetic or ethnographic depiction of excited delirium and its relationship to police violence and Afro-Caribbean religion, see generally AISHA M. BELISO-DE JESÚS, EXCITED DELIRIUM: RACE, POLICE VIOLENCE, AND THE INVENTION OF A DISEASE (2024).

[98] *See infra* section II.D, pp. 1526–30.

[99] For examples of this shared "broken" narrative in law and medicine, see generally WASHINGTON, *supra* note 92; ROBERTS, *supra* note 93; METZL, *supra* note 95.

[100] *See* Jason Szep et al., *Shock Tactics: How Taser Inserts Itself into Investigations Involving Its Own Weapons*, REUTERS (Aug. 24, 2017, 11:00 AM) https://www.reuters.com/investigates/special-report/usa-taser-experts [https://perma.cc/3DL3-2PW6] ("Mash trained under Wetli, calling him a 'mentor,' according to court documents.").

[101] Deborah C. Mash, *Excited Delirium and Sudden Death: A Syndromal Disorder at the Extreme End of the Neuropsychiatric Continuum*, FRONTIERS IN PHYSIOLOGY, Oct. 2016, art. 435, at 1 ("[A] genetic disorder . . . could be a precipitating cause of the acute delirium and sudden death.").

[102] Mash and her colleagues state:

> Police when suddenly confronted with psychotic, violent persons, set into motion an escalation of the use of force continuum, and death may occur despite the appropriate application of sublethal control techniques. The violent nature of the conflict between police and excited delirium victims, often witnessed by citizens and sometimes the news media, may lead to accusations of excessive use of force and community outrage. If death occurs while police officers are trying to restrain the victims, the police are assumed to be responsible with subsequent civil litigation against the municipality, the police

people aren't dying because of police . . . . It's a brain disease. People don't act out in these very bizarre manners that police describe without an underlying brain disorder. Plenty of people abuse cocaine and never develop excited delirium."[103] This posture, which simultaneously defends excited delirium and absolves police officers of wrongdoing, is notable, but not isolated. For example, Vincent Di Maio, a prominent former medical examiner who provided extensive expert testimony that expanded the use of excited delirium as a diagnosis and defense for police,[104] cowrote a book on the condition. Remarkably, the book is dedicated "to all law enforcement and medical personnel who have been wrongfully accused of misconduct in deaths due to excited delirium syndrome."[105]

Perhaps the most substantial support for excited delirium has come from the American College of Emergency Physicians (ACEP), which convened a task force that published a 2009 white paper on excited delirium and its clinical significance.[106] Although ACEP also acknowledged that "the exact pathophysiology of [excited delirium syndrome] remains unidentified" and that medical professionals "do not have a definitive diagnostic 'test' for [excited delirium syndrome]," it insisted that the syndrome "must be identified by its clinical features," or how someone presents themselves.[107] For quite some time, ACEP was the most prominent professional medical association to actively support excited delirium as a legitimate diagnosis. But in recent years, ACEP has moved in a different direction and has formally distanced itself from the

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> department, and the individual police officers to be expected. The tendency to confuse proximity with causality, become greater when the necropsy fails to disclose an anatomic cause of death. Because these cases come to legal review, measures should be taken to ensure that events and findings are clearly documented. We have demonstrated that dopamine transporter and Hsp70 proteins are indicators of abnormal biological processes that afford an objective measure to assess excited delirium at autopsy. The high sensitivity and low degree of interindividual variability provide proof-of-concept that when combined with descriptions of the decedents' behavior prior to death, a 2-protein biomarker analysis has validity for use in assigning excited delirium as a cause of death.

Deborah C. Mash et al., *Brain Biomarkers for Identifying Excited Delirium as a Cause of Sudden Death*, 190 FORENSIC SCI. INT'L e13, e18 (2009) (footnote omitted).

[103] Michael Barajas, *Excited. Delirious. Dead.*, TEX. OBSERVER (Oct. 16, 2017, 11:17 AM), https://www.texasobserver.org/excited-delirious-dead [https://perma.cc/EVL5-QCLL].

[104] *See* BRIANNA DA SILVA BHATIA ET AL., PHYSICIANS FOR HUM. RTS., "EXCITED DELIRIUM" AND DEATHS IN POLICE CUSTODY 24, 26 (2022), https://phr.org/wp-content/uploads/2022/03/PHR-Excited-Delirium-Report-March-2022.pdf [https://perma.cc/UJM8-HKLL] (noting that Di Maio was Chief Medical Examiner of Bexar County, Texas, *id.* at 24, and that "Di Maio has acknowledged testifying as a paid expert for TASER/Axon multiple times and stated in 2014 that in the cases in which he was deposed, he always gave the opinion that the Taser did not cause or contribute to the person's death," *id.* at 26).

[105] THERESA G. DI MAIO & VINCENT J.M. DI MAIO, EXCITED DELIRIUM SYNDROME: CAUSE OF DEATH AND PREVENTION, at v (2005).

[106] AM. COLL. OF EMERGENCY PHYSICIANS, WHITE PAPER REPORT ON EXCITED DELIRIUM SYNDROME (2009).

[107] *Id.*

term[108] in favor of a new concept, *hyperactive delirium syndrome*.[109] ACEP finds utility in using what it believes to be a more descriptive term to characterize a state of severe agitation, but it is unclear how it distinguishes the two concepts.[110] Ultimately, it appears that ACEP continues to be open to the idea that the rapid onset of a psychotic episode that brings on agitation can lead to fatal outcomes.[111]

There have been two major systematic reviews that assess the scientific basis of excited delirium by evaluating the research literature that studies it as a medical phenomenon. In the first meta-study, authored by Philippe Gonin, Nicolas Beysard, and Professors Bertrand Yersin and Pierre-Nicolas Carron, the researchers screened over 3,000 articles (sixty-six qualified for inclusion) in an attempt to determine a common definition, etiology, mechanism, and form of treatment.[112] The authors found diverging discussions on the root cause and pathways of excited delirium and no common definition of the term.[113] Even the use of cocaine — thought to be the hallmark trigger for an excited delirium episode — was not a consistent factor, leading the authors to suspect that excited delirium must be caused by genetic predisposition rather than drugs, as Mash suggested.[114] Ultimately, the authors came to the rather contradictory conclusion that their "systematic review of the literature on excited delirium shows a global predominance of low to very low levels of evidence," yet somehow at the same time "that excited delirium is a real clinical entity."[115]

Professors Ellen M.F. Strömmer, Wendy Leith, Maurice P. Zeegers, and Michael D. Freeman's literature review looked at the existing research to try to understand the risk factors for fatal outcomes tied to an

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[108] *See ACEP Reaffirms Positions on Hyperactive Delirium*, AM. COLL. OF EMERGENCY PHYSICIANS (Oct. 12, 2023), https://www.acep.org/news/acep-newsroom-articles/aceps-position-on-hyperactive-delirium [https://perma.cc/6QZB-NUZJ] ("ACEP does not recognize the use of the term 'excited delirium' and its use in clinical settings.").

[109] *See generally* AM. COLL. OF EMERGENCY PHYSICIANS, ACEP TASK FORCE REPORT ON HYPERACTIVE DELIRIUM WITH SEVERE AGITATION IN EMERGENCY SETTINGS (2021), https://www.acep.org/siteassets/new-pdfs/education/acep-task-force-report-on-hyperactive-delirium-final.pdf [https://perma.cc/7TAB-BVBU].

[110] For a rather muddled discussion of the distinction between the two, see *id.* at 5.

[111] *Id.* at 16.

[112] Philippe Gonin et al., *Excited Delirium: A Systematic Review*, 25 ACAD. EMERGENCY MED. 551, 561 (2018). The authors note: "To our knowledge, this is the first systematic review to evaluate the definition, epidemiology, pathophysiology, and treatment of [excited delirium syndrome]." *Id.*

[113] *Id.* at 552.

[114] *Id.* at 561 ("Interestingly, most of the studies evaluating blood or brain cocaine concentrations show low or similar levels of cocaine in ExDS-related deaths, in comparison with other cocaine intoxication-related deaths. Genetic susceptibilities are thus suspected to contribute to the occurrence of ExDS."); Mash, *supra* note 101, at 1 ("[A] genetic disorder . . . could be a precipitating cause of the acute delirium and sudden death.").

[115] Gonin et al., *supra* note 112, at 562.

excited delirium or agitated delirium diagnosis.[116] The authors found that "a diagnosis of excited delirium (ExDs) and potentially fatal restraint [by law enforcement or medical professionals] are inextricably interwoven."[117] That is, while the terms "excited delirium" and "agitated delirium" were "used interchangeably in the literature" and often described the same behavior, excited delirium was more often used when police were involved.[118] This trend makes identifying excited delirium tricky:

> [T]he characteristics that are primarily used to define [excited delirium syndrome] (i.e. agitation and delirium) are also highly likely to trigger the use of force and forceful restraint by law enforcement and institutional personnel, and restraint by itself can be associated with an increased risk of death due to positional or compressive asphyxia.[119]

This observation leads to a revealing conclusion:

> These results provide strong evidence that the more likely it is that a death resulted from restraint, the more likely it is that the death will be attributed to [excited delirium syndrome], which allows for the restraint to be ignored as a cause. Thus, the evidence suggests that [excited delirium syndrome] is not a unique cause of death in the absence of restraint, and that the supposition to the contrary is an artifact of circular reasoning and confounding rather than an evidence-based inference.[120]

These two systematic reviews of the literature on excited delirium highlight the remarkable lack of support in scientific and medical literature for this diagnosis as an independent cause of death apart from external factors such as police use of force. Nevertheless, at the very same moment that scientific and medical literatures started to collectively raise doubts about excited delirium as a valid diagnosis, medical professionals and law enforcement began relying on the concept as a legitimate diagnosis when making decisions about how to treat people. For example, an investigation from 2020 showed that over a two-and-a-half-year period, paramedics in Colorado used chemical restraints[121] (drugs such as ketamine that have a sedative effect) on 902 people who were thought to have experienced excited delirium.[122] Numerous other reports by journalists have documented the extent to which excited delirium has become part of the common parlance used by many medical professionals and law enforcement officers while also shaping their

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116 Ellen M.F. Strömmer et al., *The Role of Restraint in Fatal Excited Delirium: A Research Synthesis and Pooled Analysis*, 16 FORENSIC SCI. MED. & PATHOLOGY 680, 680 (2020).

117 *Id.* at 683.

118 *See id.*

119 *Id.* at 681.

120 *Id.* at 684.

121 For an extended discussion of the use of chemical restraints by medical professionals and law enforcement, see Obasogie & Zaret, *supra* note 28, at 6 n.27, 19–36.

122 de Yoanna & Solomon, *supra* note 27.

decisionmaking in the field.[123] And, as demonstrated in my previous work on excited delirium, federal courts have largely accepted excited delirium as a valid medical diagnosis when evaluating whether force used by police officers exceeded Fourth Amendment limits in civil rights claims under 42 U.S.C. § 1983.[124] While this earlier work examined the ways that courts have approached excited delirium in constitutional tort litigation involving police use of force, this Article asks a more foundational question: *How* did excited delirium become a legitimate medical diagnosis within and among federal courts? In the next Part, I will provide a brief discussion of the evidentiary rules and case law that shape the doctrinal questions of when and how scientific evidence can enter legal proceedings. That will be followed by a close qualitative examination of cases that tracks the emergence and legitimization of excited delirium within federal courtrooms. In so doing, I hope to explore how a discredited medical idea came to be accepted in law.

II. EXPERT TESTIMONY

Novel medical and scientific claims often enter legal disputes through expert testimony, which allows litigants to introduce an explanation or argument through a professional with scientific or technical expertise on a subject matter relevant to the disposition of a case. Experts have played an important role in courtrooms for hundreds of years.[125] Volumes have been written on the admissibility of expert witness testimony.[126] Rather than replicate this well-covered ground, this Part will briefly sketch the general rules that govern how and when expert testimony can enter legal discussions and the role of federal judges in making these determinations. I will then put these rules in conversation with what we know about excited delirium as a medical concept to explore whether this condition fits within standard legal frameworks for what qualifies as admissible scientific evidence in federal courts.

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[123] *See, e.g.*, Justin Jouvenal, *"Excited Delirium" Cited in Dozens of Deaths in Police Custody. Is It Real or a Cover for Brutality?*, WASH. POST (May 6, 2015), https://www.washingtonpost.com/local/crime/existence-of-excited-delirium-ruling-in-va-womans-death-has-experts-split/2015/05/06/b1cc9499-ddaa-474c-9e8a-9ae89a9ae679_story.html [https://perma.cc/E5KY-ECC5]; Alessandro Marazzi Sassoon, *Excited Delirium: Rare and Deadly Syndrome or a Condition to Excuse Deaths by Police?*, FLA. TODAY (Jan. 30, 2020, 2:52 PM), https://www.floridatoday.com/in-depth/news/2019/10/24/excited-delirium-custody-deaths-gregory-edwards-melbourne-taser/2374304001/ [https://perma.cc/LH7B-ALAN]; Barajas, *supra* note 103.

[124] *See* Obasogie, *supra* note 57, at 1603–06.

[125] *See generally* Tal Golan, *Revisiting the History of Scientific Expert Testimony*, 73 BROOK. L. REV. 879 (2008).

[126] *See, e.g.*, NAT'L RSCH. COUNCIL, REFERENCE MANUAL ON SCIENTIFIC EVIDENCE (3d ed. 2011).

A. Background

Historian Tal Golan has discussed the use of scientific expert witnesses in common law as far back as the sixteenth century.[127] Thus, the evolving and fluid relationship between scientific principles and legal adjudication has existed for quite some time. The rise of the adversarial system in the late 1700s changed the relationship between expert witnesses and courts and also solidified experts' position as an indispensable part of litigants' courtroom strategy.[128] Moreover, this late eighteenth-century shift in legal procedure was matched by a shift in what Golan describes as a "culture of expertise," whereby the learned wise man whose legally relevant expertise was based on various observations was replaced by the scientist who used different methods to unearth how "the hidden laws of nature" worked.[129] These eighteenth-century transformations in English common law provided a context for how the American legal system would handle expert testimony. Golan writes:

> The American legal system observed the same adversarial procedures of the common law, while the American scientific community advertised the same high expectations from the scientific method, as did its English counterpart. These two features ensured that in spite of the significant differences in the institutional and social dynamics of the legal and scientific communities between the two countries, the problem of expert testimony would develop in nineteenth-century America along the same basic pattern displayed in England. Thus, as in England, the growing deployment of men of science in divergent areas of litigation turned the American courts into a lucrative arena for scientific activity. And, as in England, this arena soon put on public display the curious spectacle of leading scientists disagreeing with each other from the witness stand, a view that served to cast doubts on the integrity of the experts and their science.[130]

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[127] Golan, *supra* note 125, at 881 (quoting a 1554 case, *Buckley v. Rice Thomas* (1554) 75 Eng. Rep. 182; 1 Plowd. 118, where a dissenting judge notes that "if matters arise in our law which concern other sciences or faculties, we commonly apply for the aid of that science or faculty which it concerns. Which is an honourable and commendable thing in our law. For thereby it appears that we do not despise all other sciences but our own, but we approve of them and encourage them as things worthy of commendation," *id.* at 192 (Saunders, J., dissenting)).

[128] *Id.* at 885 (noting that "during the late eighteenth century, as the court gradually assumed a neutral position, as the litigants assumed responsibility for developing their own proof in court and summoned their own experts to represent them before the jury, and as adversarial ideology was given free reign," courts began to run into the issue of "how to ensure that in this adversarial environment the lay jury would still have access to reliable expert guidance when the jury needed it").

[129] *Id.* at 886.

[130] *Id.* at 915–16 (footnotes omitted). Professor Stephan Landsman also writes:

> The rise of an adversarial form of procedure had a dramatic effect on the use of experts. In fact, it has been persuasively argued that the expert witness, as that term is generally understood in modern Anglo-American courtroom procedure, came into existence in this era. Catherine Crawford has noted that it was not until the late eighteenth or early nineteenth century that English legal texts began to discuss issues concerning the

Chancellor David Faigman and Professors Edward Cheng, Erin Murphy, Joseph Sanders, and Christopher Slobogin note in their leading treatise on expert witness testimony that a market sensibility came to shape how courts understood expert witness credibility; professional success in a scientific or medical field was thought to be a proxy for the reliability and robustness of the testimony given.[131] Yet, this market in expert testimony may have led to a decline in the quality and reliability of such contributions,[132] which may have in turn undermined the way that some jurists viewed the overall credibility of science in the courtroom. U.S. Supreme Court Chief Justice Morrison Remick Waite wrote in 1874 that "whoever has read the reports of trials or been present at them, in which experts are seen arrayed against each other, prostituting at times the science which they professed to represent . . . need not be told, that the subject of expert testimony as now understood, is one of no ordinary importance."[133] Various attempts were made to try to reform expert witness testimony during the nineteenth century, from professional regulation to changes in the laws of evidence, but not with much success.[134]

This changed in 1923 with *Frye v. United States*,[135] a decision by the Court of Appeals for the District of Columbia Circuit. James Frye pled not guilty to an accusation of murder.[136] His lawyers offered

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> testimony of experts. Furthermore, it was not until this period that the opinions of laymen became a regular focus of judicial concern and exclusion. Finally, it was not until this moment that a robust hearsay barrier was erected that emphasized the personal knowledge of the expert rather than general propositions gathered from venerable sources.

Stephan Landsman, *Of Witches, Madmen, and Products Liability: An Historical Survey of the Use of Expert Testimony*, 13 BEHAV. SCIS. & L. 131, 139 (1995) (footnotes omitted).

131 1 FAIGMAN ET AL., *supra* note 51, § 1:2 ("[A] modicum of prosperity in the practice of the occupation or profession possessing that knowledge almost always accompanied the expertise. In effect, the marketplace determined whether valid knowledge existed by endowing it with commercial value. This is not a point that courts made explicitly, but it seems to be implicit in the courts' determinations of who was 'qualified.'").

132 *Id.* Faigman et al. write:

> [T]he test of commercial value is a poor one. Its major weaknesses are perhaps more obvious today than they were a century or two ago. The market not only selects for validity, it selects also for entertainment, desire, wishful thinking, hope, sometimes even desperation. These are not without their value, but they are not good proxies for what courts are looking for in expert testimony. If the marketplace approves, as it does, of astrologers, sellers of phony cancer cures, and guides to new age vortices, are those therefore good enough to provide guidance in a courtroom? The marketplace test is incapable of distinguishing astrology from astronomy.

Id. They also note the problem "that some fields [that may have high value in the courtroom] have little or no life in any commercial marketplace[;] . . . [t]he courtroom *is* their marketplace." *Id.* Further, "the marketplace test conflates the expert and the expertise[;] . . . being a 'qualified expert' presupposes that an expertise exists." *Id.*

133 Morrison R. Waite, *Testimony of Experts*, 8 W. JURIST 129, 134–35 (1874).

134 Golan, *supra* note 125, at 920–23 ("By the end of the nineteenth century, it was clear that the American law of evidence had failed to control the problem of expert testimony." *Id.* at 923.).

135 293 F. 1013 (D.C. Cir. 1923).

136 Jill Lepore, Essay, *On Evidence: Proving* Frye *as a Matter of Law, Science, and History*, 124 YALE L.J. 1092, 1121 (2015).

psychologist William Marston as an expert witness who had developed an assessment that measured fluctuations in systolic blood pressure — what some might characterize as a type of lie detector test — that could prove Frye's innocence.[137] At this time, no special rules existed regarding the admissibility of scientific evidence, with the only criteria being whether the evidence was relevant, whether it was helpful, and whether the witness had appropriate qualifications.[138] In what some have speculated was an ends-oriented decision reflecting the court's deep skepticism of Marston's test,[139] the court put forward a new standard whereby "the thing from which the deduction is made must be sufficiently established to have gained general acceptance in the particular field in which it belongs."[140] This shift toward a "general acceptance" standard that focuses on the extent to which an expert's ideas have been established within the scientific community provided judges a "gatekeeping" function to assess whether the expertise offered reflects what the relevant field says.[141] But what is often missed with this decision is that, as Professor Bennett Capers notes, "*Frye* is a race case. . . . He was a Black man arguing during a time of overt racial bias that expert testimony would exonerate him. In a very real sense, our conception of when expert testimony is admissible, and for whom, has long been entangled with race."[142] Thus, notions of race and antiblackness may very well have shaped the *Frye* court's skepticism toward this particular testimony and given birth to a highly influential doctrinal moment in evidence law.

B. Contemporary Standards

The *Frye* standard remained dominant for several decades until 1975, when the Federal Rules of Evidence (FRE) were codified.[143] The

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137 *See* Kenneth J. Weiss et al., Analysis and Commentary, Frye*'s Backstory: A Tale of Murder, a Retracted Confession, and Scientific Hubris*, 42 J. AM. ACAD. PSYCHIATRY & L. 226, 227 (2014).

138 Golan, *supra* note 125, at 927–28.

139 *Id.* (noting that the appellate court "was not going to allow the sensational lie-detector test into the court," *id.* at 927, meaning "it needed to furnish a better rationale for its exclusion," *id.*, due to the strong scientific and legal credentials of the test's inventor, ultimately leading to the court's "innovative rationale that shifted the focus of the admissibility process from the expert's credentials to the particular scientific knowledge he proposed to the court," *id.* at 928).

140 *Frye*, 293 F. at 1014.

141 David E. Bernstein, Frye*,* Frye*, Again: The Past, Present, and Future of the General Acceptance Test*, 41 JURIMETRICS 385, 394 (2001); *see id.* at 388–89 (noting that the "the dearth of citations to *Frye* [during the 1960s] does not mean that courts ignored it," *id.* at 388, because "some courts adopted the general acceptance test without citing *Frye*[;] . . . *Frye* applied only to novel scientific techniques . . . [and] few courts considered the types of expert scientific evidence presented in a typical civil case . . . to be based on a novel scientific technique within the meaning of the *Frye* rule[; and] . . . most state court opinions, particularly at the trial court level, are unpublished," *id.* at 388–89 (footnotes omitted)).

142 Bennett Capers, *Race, Gatekeeping, Magical Words, and the Rules of Evidence*, 76 VAND. L. REV. 1855, 1862–63 (2023) (footnote omitted).

143 FED. R. EVID. hist. n.

FRE did not defer to or mention the *Frye* standard and simply made a broad claim that if certain types of special knowledge might be helpful, an expert can offer them.[144] Rule 702 became part of a growing conversation, as the role of courts in applying *Frye* expanded from criminal prosecutions to civil proceedings.[145] This is the context in which the Supreme Court heard *Daubert v. Merrell Dow Pharmaceuticals, Inc.*,[146] a case concerning whether a drug to treat nausea that was taken by pregnant women caused birth defects.[147] The evidence from plaintiffs' expert witness did not meet *Frye*'s generally accepted standard, and the trial judge granted summary judgment to the defendants, which was affirmed on appeal.[148] The plaintiffs appealed to the Supreme Court, arguing that the *Frye* standard no longer applied after the adoption of Rule 702.[149] The Supreme Court agreed and created a new, nonexclusive framework for assessing the admissibility of expert witness testimony: (1) whether the expert testimony is testable; (2) whether the expert testimony "has been subjected to peer review";[150] (3) "the known or potential" error rate; (4) "existence . . . of standards controlling the technique's operation"; and (5) whether the opinion or practice is generally accepted within the field.[151]

While not a rigid or exhaustive test,[152] these guiding principles from *Daubert* solidified judges' roles as gatekeepers with regard to determining when scientific evidence can enter a legal dispute and when it should be excluded. Subsequent decisions by the Supreme Court, such as *General Electric Co. v. Joiner*[153] and *Kumho Tire Co. v. Carmichael*,[154] further expanded this judicial role by affirming an "abuse of discretion"

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144 FED. R. EVID. 702 (1975) (amended 2023) ("If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise.").

145 *See* Golan, *supra* note 125, at 931.

146 509 U.S. 579 (1993).

147 *See id.* at 582.

148 *Id.* at 583–84.

149 *Id.* at 587.

150 *Id.* at 593.

151 *Id.* at 594.

152 FED. R. EVID. 702 advisory committee's note to 2000 amendment (noting that "*Daubert* set forth a non-exclusive checklist for trial courts to use in assessing the reliability of scientific expert testimony" and then listing those factors, which include: "(1) Whether experts are 'proposing to testify about matters growing naturally and directly out of research they have conducted independent of the litigation, or whether they have developed their opinions expressly for purposes of testifying.' (2) Whether the expert has unjustifiably extrapolated from an accepted premise to an unfounded conclusion. (3) Whether the expert has adequately accounted for obvious alternative explanations. (4) Whether the expert 'is being as careful as he would be in his regular professional work outside his paid litigation consulting.' (5) Whether the field of expertise claimed by the expert is known to reach reliable results for the type of opinion the expert would give." (citations omitted) (quoting, inter alia, Daubert v. Merrell Dow Pharms., Inc., 43 F.3d 1311, 1317 (9th Cir. 1995))).

153 522 U.S. 136 (1997).

154 526 U.S. 137 (1999).

standard for appellate review of trial courts' decisions on the admissibility of expert witness testimony[155] and extending trial judges' gatekeeping function under the Federal Rules of Evidence to all skill-based expert testimony, not just scientists'.[156] The guidance provided by *Daubert*, along with holdings from subsequent cases like *Kumho*, was incorporated into a 2000 Amendment to Rule 702.[157] The Advisory Committee for the 2000 Amendment to Rule 702 noted that "the admissibility of all expert testimony is governed by the principles of Rule 104(a)[,] . . . [where] the proponent has the burden of establishing that the pertinent admissibility requirements are met by a preponderance of the evidence."[158] After the 2000 Amendment, concerns arose that courts were not consistently analyzing both "the expert's methodology" and the "application of that methodology to the facts at issue."[159] Put simply, federal courts were not playing the gatekeeping function that the 2000 Amendment intended.[160] To help clarify this problem, a December 2023 Amendment explicitly brought the preponderance standard from Rule 104(a) into Rule 702.[161]

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155 *Joiner*, 522 U.S. at 138–39.

156 *Kumho*, 526 U.S. at 147.

157 *See* FED. R. EVID. 702 (2000 amendment).

158 *Id.* advisory committee's note to 2000 amendment.

159 David E. Bernstein & Eric G. Lasker, *Defending* Daubert*: It's Time to Amend Federal Rule of Evidence 702*, 57 WM. & MARY L. REV. 1, 7 (2015).

160 Bernstein and Lasker wrote in 2015 that "[f]ifteen years have passed, and it is now apparent that the 2000 amendments to Rule 702 have not succeeded in entrenching these [gatekeeping] requirements. Although many courts have faithfully applied amended Rule 702, the same divisions that existed in the courts prior to 2000 continue to exist today . . . ." *Id.* Similarly, Judge Thomas D. Schroeder writes:

> To discharge this gatekeeper role, a trial court must make a preliminary determination whether the expert's opinion evidence meets the admissibility standards of Federal Rule of Evidence 702, which in turn requires application of Federal Rule of Evidence 104(a)'s preponderance test. . . . [S]ome trial and appellate courts misstate and muddle the admissibility standard, suggesting that questions of the sufficiency of the expert's basis and the reliability of the application of the expert's method raise questions of weight that should be resolved by a jury, where they can be subject to cross-examination and competing evidence.

Thomas D. Schroeder, *Toward a More Apparent Approach to Considering the Admission of Expert Testimony*, 95 NOTRE DAME L. REV. 2039, 2039 (2020) (emphasis omitted).

161 The 2023 Amended FRE 702 states:

> A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if *the proponent demonstrates to the court that it is more likely than not that*: (a) the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue; (b) the testimony is based on sufficient facts or data; (c) the testimony is the product of reliable principles and methods; and (d) the expert's opinion reflects a reliable application of the principles and methods to the facts of the case.

FED. R. EVID. 702 (emphasis added); *see id.* advisory committee's note to 2023 amendment (discussing the clarified preponderance standard and subsequently citing Rule 104(a)).

C. Expert Witness Testimony and Forensic Science in the Law Review Literature

Since the 1993 *Daubert* decision, the law review literature has been replete with discussion of the case's impact and whether it provides appropriate guidance to courts on how to handle expert witness testimony. Many scholars have been skeptical about how forensic evidence is gathered and assessed in the criminal justice system.[162] Despite best intentions, *Daubert* has not been able to remedy problems associated with using this evidence in the courtroom.[163] In one of the first law review articles to assess the *Daubert* decision, Professor Randolph Jonakait highlighted the lack of clarity provided by the court and predicted that "[t]he result may be that *Daubert* has little effect on future litigation" given the flexibility of the tests that it offered.[164] Jonakait argues that *Daubert* is "premised on unarticulated assumptions"[165] and that its "guidance on how to use the listed factors [for determining the admissibility of evidence] is not only inadequate, it is sometimes downright misleading."[166] A 1998 article by Professor Erica Beecher-Monas draws attention to the early hope following *Daubert* that courts would pay closer attention to the science presented in courtrooms and embrace their gatekeeping function.[167] However, Beecher-Monas notes that this hope has not materialized:

> *Daubert* requires litigants and judges to focus on the interaction of theory and methodology in a way that should change not only the way evidence must be justified, but the soundness of the evidence itself. All too often, however, courts continue to evade the science issues. In far too many jurisdictions, judges are turning a blind eye to the science involved in the

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[162] *See, e.g.*, Suzanne Bell et al., *A Call for More Science in Forensic Science*, 15 PROC. NAT'L ACAD. SCIS. 4541, 4541 (2018). *See generally* Michael J. Saks & David L. Faigman, *Failed Forensics: How Forensic Science Lost Its Way and How It Might Yet Find It*, 4 ANN. REV. L. & SOC. SCI. 149 (2008); Roberta Julian & Sally F. Kelty, *Forensic Science as "Risky Business": Identifying Key Risk Factors in the Forensic Process from Crime Scene to Court*, 1 J. CRIMINOLOGICAL RSCH. POL'Y & PRAC. 195 (2015); Jennifer L. Mnookin, *The Uncertain Future of Forensic Science*, DAEDALUS, Fall 2018, at 99.

[163] *See* Randolph N. Jonakait, *The Meaning of* Daubert *and What that Means for Forensic Science*, 15 CARDOZO L. REV. 2103, 2103–04 (1994); Erica Beecher-Monas, *Blinded by Science: How Judges Avoid the Science in Scientific Evidence*, 71 TEMP. L. REV. 55, 58 (1998).

[164] Jonakait, *supra* note 163, at 2104.

[165] *Id.* at 2103.

[166] *Id.* at 2105; *see also id.* at 2103–04 ("The opinion commands trial courts to determine whether something is 'scientific,' not whether it is physics, chemistry, biology, epidemiology, psychology, accidentology, clinical ecology, or forensic science. This can be done only if there are general standards and methods applicable to all fields of science that distinguish genuine science from pseudoscience. Furthermore, the Court's command can only be followed if trial courts can understand those standards and use them to identify real science. These premises, however, were not stated. It would have been better if they had been to help insure that trial courts would begin their analyses at the proper starting point." (footnotes omitted)).

[167] *See generally* Beecher-Monas, *supra* note 163.

> evidence before them. Ignoring *Daubert* is a travesty in criminal trials where the presumption of innocence is fundamental.[168]

Criticism of *Daubert* and its impact (or lack thereof) in federal courts continued into the early 2000s.[169] Professors D. Michael Risinger, Michael Saks, William Thompson, and Robert Rosenthal draw upon the psychological literature on "observer effects"[170] to suggest that the standardization called for by *Daubert* and subsequent cases can be undermined by the expectation and subjective position of expert witnesses, creating what the authors call "an investigative echo chamber, where a few items of evidence reverberate and seem more numerous and stronger than they really are."[171] Thus, the authors argue that the American Society of Crime Laboratory Directors' accreditation standards alone do not ensure that forensic expert witnesses present accurate forensic evidence, and the authors call for additional strategies to insulate such expert witnesses from influences that might affect their judgment.[172] Genie Lyons's student note on Shaken Baby Syndrome (SBS) captures sentiments among many criminal defense attorneys[173] questioning the existence of a condition thought to prove that a child died

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[168] *Id.* at 58 (footnote omitted).

[169] A notable exception to this trend is a 2004 article by Professor Henry Fradella, Professor Lauren O'Neill, and Adam Fogarty that engages in a content analysis of published and unpublished federal cases discussing evidentiary issues on matters concerning forensic toxicology and forensic pathology. *See generally* Henry F. Fradella et al., *The Impact of* Daubert *on Forensic Science*, 31 PEPP. L. REV. 323 (2004). While the authors find that federal courts demonstrated notable inconsistencies with *Daubert*, they conclude that:

> [I]t appears that judges have been remarkably consistent in applying *Daubert* to several types of forensic science since *Kumho* made *Daubert* applicable to many areas originally thought to be beyond its province when *Daubert* was first decided. This consistency is marked when applying *Daubert* to truly scientific areas of forensic investigations, such as with forensic pathology, forensic physics (i.e., ballistics and audiology), forensic fire science, and certain types of forensic engineering. But application of *Daubert*, post-*Kumho*, to the more technical areas of forensic science, such as forensic accounting, fingerprint analysis, and handwriting analysis has proven more difficult for the courts. This is undoubtedly due, in part, to *Daubert's* factors for admissibility being based on Karl Popper's notion of science — specifically on falsifiability. In spite of struggling to fit technical forensic evidence into the scientific rubric of peer review, replication, and known error rates as set forth in *Daubert*, courts are doing a remarkably good job in applying *Daubert* fairly consistently in the post-*Kumho* era.

Id. at 361; *see also* Mara L. Merlino et al., *Meeting the Challenges of the* Daubert *Trilogy: Refining and Redefining the Reliability of Forensic Evidence*, 43 TULSA L. REV. 417, 431–41 (2007) (describing, in Parts III and IV, how the fields of handwriting and fingerprint identification have evolved since *Daubert* to meet its standards for admissibility).

[170] D. Michael Risinger et al., *The* Daubert/Kumho *Implications of Observer Effects in Forensic Science: Hidden Problems of Expectation and Suggestion*, 90 CALIF. L. REV. 1, 5 (2002); *see also id.* at 35 (calling for "standards for distinguishing domain-specific from domain-irrelevant information, coupled with mechanisms for screening the latter").

[171] *Id.* at 29.

[172] *Id.* at 31–35.

[173] *See, e.g.*, DEBORAH TUERKHEIMER, FLAWED CONVICTIONS: "SHAKEN BABY SYNDROME" AND THE INERTIA OF INJUSTICE, at xii (2014); *Defensive Strategy*, MARK D. FREEMAN, ESQ., https://www.shakenbabydefense.com/cases/strategy [https://perma.cc/ZT2A-AVZS].

from abuse.[174] Though evidence of this syndrome has largely been accepted in courtrooms, significant evidentiary gaps suggest that claims by expert witnesses regarding SBS may have led to several unjust convictions and incarcerations.[175] Professor Erin Murphy's 2007 article *The New Forensics* argues that the first generation of forensics (fingerprinting, bullet ballistics, and so forth) and newer second-generation technologies based on DNA and large data sets may be separated by a technological gulf, yet both still suffer from similar problems that raise important questions about their validity in courtrooms when presented by expert witnesses.[176] One poignant critique of the *Daubert* framework offered by Murphy is that trial courts often find particular expert witnesses' scientific methods reliable simply because of judicial precedent (that is, a previous judge approved it) rather than embracing the courts' gatekeeping function and independently assessing the methods' merits de novo.[177]

The conversation concerning expert witness testimony shifted in 2009 when a committee at the National Academy of Sciences (NAS) published a report titled *Strengthening Forensic Science in the United States: A Path Forward*.[178] This committee emerged out of the Science, State, Justice, Commerce, and Related Agencies Appropriations Act of 2006,[179] in which NAS received congressional authorization to study the state of forensic science.[180] It is important to note that this Act specifically funded an inquiry into *non-DNA* forensics to better understand the needs of this community.[181] The committee established by NAS to explore this topic covered a wide range of issues, including infrastructure needs, forensic science practices in areas such as handwriting and hair examination, the comparative effectiveness of coroner and medical

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174 *See generally* Genie Lyons, Note, *Shaken Baby Syndrome: A Questionable Scientific Syndrome and a Dangerous Legal Concept*, 2003 UTAH L. REV. 1109.

175 *Id.* at 1129–31.

176 Murphy, *supra* note 52, at 723, 725 ("[T]he very characteristics that instill such confidence in the second generation — their technical complexity, reliance on databasing, and breadth of application — in fact aggravate the conditions that ultimately caused widespread failures in the first generation." *Id.* at 725.).

177 *See id.* at 758 ("Indeed, trial courts routinely find scientific methodologies reliable *solely* on the basis of judicial notice, and appellate courts have endorsed particular methodologies and techniques based solely upon approval in other jurisdictions or appraisal of relevant literature in the field." (footnotes omitted)).

178 NAT'L RSCH. COUNCIL, *supra* note 51.

179 Pub. L. No. 109–108, 119 Stat. 2290 (2005).

180 *Id.* § 6, 119 Stat. at 2302.

181 S. REP. NO. 109–88, at 46 (2005) ("While a great deal of analysis exists of the requirements in the discipline of DNA, there exists little to no analysis of the remaining needs of the community outside of the area of DNA. Therefore . . . the Committee directs the Attorney General to provide [funds] to the National Academy of Sciences to create an independent Forensic Science Committee. This Committee shall include members of the forensics community representing operational crime laboratories, medical examiners, and coroners; legal experts; and other scientists as determined appropriate.").

examiner systems, and the impact of forensic science in civil and criminal litigation.[182]

Chapter three of the report does, however, pay close attention to *Daubert*, Rule 702, and the admission of expert witness testimony and comes to a conclusion similar to what was then discussed in the law review literature. Noting that the issue of reliability is paramount in criminal cases, the report states: "[W]e must limit the risk of having the reliability of certain forensic science methodologies condoned by the courts before the techniques have been properly studied and their accuracy verified."[183] Yet the committee openly acknowledges that "some courts appear to be loath to insist on such research as a condition of admitting forensic science evidence in criminal cases, perhaps because to do so would likely 'demand more by way of validation than the disciplines can presently offer.'"[184] The committee concludes its assessment of *Daubert* and the admissibility of expert witness testimony with a rather blunt and sober assessment:

> [T]he adversarial process relating to the admission and exclusion of scientific evidence is not suited to the task of finding "scientific truth." The judicial system is encumbered by, among other things, judges and lawyers who generally lack the scientific expertise necessary to comprehend and evaluate forensic evidence in an informed manner, trial judges (sitting alone) who must decide evidentiary issues without the benefit of judicial colleagues and often with little time for extensive research and reflection, and the highly deferential nature of the appellate review afforded trial courts' *Daubert* rulings. Furthermore, the judicial system embodies a case-by-case adjudicatory approach that is not well suited to address the systematic problems in many of the various forensic science disciplines.[185]

While the committee is bold in identifying these issues, it does not offer much in terms of recommendations in this particular area outside of saying that "there is a tremendous need for the forensic science community to improve."[186] Noting that DNA forensics has improved over the years due to sustained support, the committee states that "[j]udicial review, by itself, will not cure the infirmities of the forensic science community" and that similar levels of support need to be made available to non-DNA-based forensic evaluations.[187] The committee's main

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182 NAT'L RSCH. COUNCIL, *supra* note 51, at 3–4.

183 *Id.* at 109.

184 *Id.* (quoting Joan Griffin & David J. LaMagna, Daubert *Challenges to Forensic Evidence: Ballistics Next on the Firing Line*, THE CHAMPION, Sept.–Oct. 2002, at 20, 21).

185 *Id.* at 110.

186 *Id.*

187 *Id.* The committee concludes this section on *Daubert* by stating:

> With more and better educational programs, accredited laboratories, certified forensic practitioners, sound operational principles and procedures, and serious research to establish the limits and measures of performance in each discipline, forensic science experts will be better able to analyze evidence and coherently report their findings in the courts.

recommendation is that Congress should create and fund an independent federal oversight organization, the National Institute of Forensic Science, to both establish best practices and standards and enforce a set of norms that will give coherency to the field.[188]

One can perhaps understand the committee's reluctance to have a deeper engagement with questions concerning legal reform as part of its desire to adhere to its limited congressional mandate to focus on the state of the science. Yet, following the publication of the 2009 report, the law review literature began to engage this question of how law might coevolve with forensic science to create a better system for evaluating the credibility and reliability of expert witness testimony. For example, Professor Paul Giannelli's article Daubert *and Forensic Science: The Pitfalls of Law Enforcement Control of Scientific Research* supplements NAS's report by providing contextual evidence of how problems in forensic science do not simply arise on their own (as suggested by the report[189]) but are the result of manipulation by law enforcement.[190] Similarly, Professor Jennifer Laurin's article *Remapping the Path Forward: Toward a Systemic View of Forensic Science Reform and Oversight* argues that the NAS report "has fundamentally altered the landscape for scientific evidence in the criminal process, and is now setting the terms for the future of forensic science reform and practice."[191] Laurin's article highlights how the NAS report focuses on incomplete science, a lack of resources, and inadequate judicial oversight as the culprits for problems in forensic science[192] but fails to address the questionable behavior and decisionmaking by prosecutors, law enforcement,

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> The present situation, however, is seriously wanting, both because of the limitations of the judicial system and because of the many problems faced by the forensic science community.

Id.

188 *Id.* at 19.

189 *See id.* at 4.

190 Paul C. Giannelli, Daubert *and Forensic Science: The Pitfalls of Law Enforcement Control of Scientific Research*, 2011 U. ILL. L. REV. 53, 57 ("This Article argues that there is more than adequate support for the Report's conclusions that meaningful reform requires an independent agency. Scientific values are often antithetical to law enforcement values — or at least frequently perceived to be so by prosecutors and police. In particular, the notion of transparency has repeatedly been trumped by an adversarial process that favors trial by ambush. . . . The DOJ, the FBI Crime Laboratory, and some prosecutors have attempted to shape science by controlling the research agenda, hiding unwelcomed test results, attacking legitimate studies that were considered unfavorable, harassing scientists who disagreed with them, and 'spinning' these issues in the press. Indeed, the [National Institute of Justice] attempted to subvert the recent NAS Report before it was even released. This conduct is troubling precisely because it involves the government. Paradoxically, these are the very agencies of government that are entrusted to be 'ministers of justice.'" (footnote omitted)).

191 Jennifer E. Laurin, *Remapping the Path Forward: Toward a Systemic View of Forensic Science Reform and Oversight*, 91 TEX. L. REV. 1051, 1051 (2013).

192 *Id.* at 1054.

and others in criminal justice.[193] Similarly, Professors Brandon Garrett and Gregory Mitchell's article *Forensics and Fallibility: Comparing the Views of Lawyers and Jurors* directly engages the findings of the NAS report[194] as part of their assessment of whether there is a "*CSI* effect" that "affects how criminal lawyers assess forensic evidence when they negotiate pleas or decide what evidence to present at trial."[195]

This brief review of the law review literature on expert witness testimony and forensic evidence has shown scholars' longstanding skepticism of *Daubert*'s ability to guide courts effectively in their assessment of expert witness testimony, a concern that has only heightened since the 2009 NAS report. However, there has been no conversation in the law review literature about how the law of evidence impacts federal courts' assessment of the admissibility of claims concerning excited delirium, or how Rule 702 might be used to give legitimacy to an otherwise illegitimate medical condition in a manner that might contribute to obscuring unlawful uses of force by the police.

D. Excited Delirium and the Federal Rules of Evidence

What begins to emerge from Part II's discussion about the history and evidentiary support for excited delirium as a medical diagnosis and Part III's assessment of judicial standards governing the admissibility of expert witness testimony is a genuine question of how courts have assessed the term excited delirium when introduced in litigation. To place a finer point on this question, it is useful to put the existing scientific evidence concerning excited delirium in conversation with the guidance provided by Rule 702.

This exercise leads to a puzzling outcome. The two metastudies by Gonin, Beysard, Yersin, and Carron and by Strömmer, Leith, Zeegers, and Freeman that review the published research on excited delirium provide a useful backdrop from which to think about the admissibility of expert witness testimony regarding excited delirium.[196] For the first

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[193] *Id.* at 1056 ("The reform agenda of the NAS Report has little to say about the critical questions raised by these cases [concerning DNA exoneration], which center not on laboratory-based practices, but rather on the exercise of upstream discretion by other law enforcement actors.").

[194] Brandon L. Garrett & Gregory Mitchell, *Forensics and Fallibility: Comparing the Views of Lawyers and Jurors*, 119 W. VA. L. REV. 621, 622–23 (2016) ("The National Academy of Sciences underscored in a 2009 report on the state of forensic science that the adversarial process is not well suited to improve the quality of forensic evidence, in part because lawyers 'generally lack the scientific expertise necessary to comprehend and evaluate forensic evidence in an informed manner.' The report concluded that, given the reality along with the case-by-case nature of adjudication and the deferential nature of evidentiary rulings and appellate review, policymakers should focus on front-end reform of forensic disciplines. Without disagreeing with that scientific focus, our goal is to assess the seemingly uncontroversial claim that practicing lawyers may incompletely understand the strengths and limitations of forensic evidence, and that their beliefs about how jurors will weigh the evidence may be inaccurate." (footnotes omitted) (quoting NAT'L RSCH. COUNCIL, *supra* note 51, at 12)).

[195] *Id.* at 622.

[196] *See generally* Gonin et al., *supra* note 112; Strömmer et al., *supra* note 116.

two guiding standards to determine expert testimony's reliability under Rule 702, (1) testability and (2) the existence of peer-review literature,[197] excited delirium certainly meets the bar, as the very existence of the two meta-analyses show that researchers have tried to examine excited delirium scientifically and that those results have been published in peer-reviewed scientific journals. The issue is that those results largely cut against claims by other medical organizations that excited delirium has enough support to enter a legal proceeding.[198] Both meta-analyses highlight that there is not much evidence for claims that excited delirium is a psychiatric syndrome that can independently and spontaneously lead to a person's death outside of external factors.[199] Moreover, the nature of the studies on excited delirium raises questions about their quality and rigor. Strömmer, Leith, Zeegers, and Freeman note in their review:

> Neither [excited delirium syndrome] or [agitated delirium syndrome] are listed in the International Classification of Diseases . . . or in the Diagnostic and Statistical Manual of Mental Disorders . . . . As a result, case descriptions and definitions of [excited delirium syndrome and aggressive delirium syndrome] are unsystematic, and nearly all of the published research on the topic is limited to retrospective case studies and series. Of the limited studies on groups of individuals diagnosed with [excited delirium syndrome and aggressive delirium syndrome], the nature of the study design, small sample sizes, and lack of granularity make it impractical to analyze trends or draw causal conclusions about the diagnoses. . . . There are critical questions surrounding the continued use of the diagnosis of [excited delirium syndrome and aggressive delirium syndrome] that require further exploration.[200]

Thus, while testable and subject to peer review, the results of studies on excited delirium have been less than robust. It is important to reiterate that the origins of the excited delirium diagnosis did not stem from a controlled, scientific study. Rather, excited delirium emerged from anecdotal observations by two forensic pathologists who birthed the idea based on seven case studies.[201] The anecdotal and observational basis for excited delirium continues to this day without substantiation from studies with better research designs.

The third guiding standard on admissibility — regarding known or potential error rates[202] — is difficult to apply to excited delirium given the limited nature of the studies. Since most excited delirium studies are "retrospective and observational,"[203] it is difficult to measure the

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197 *See supra* notes 151–152 and accompanying text.

198 *See supra* notes 47–48 and accompanying text.

199 *See* Gonin et al., *supra* note 112, at 561 (finding that, "[i]n more than 90% of cases," patients have positive toxicology screening results and "50% of patients have a preexisting psychiatric background"); Strömmer et al., *supra* note 116, at 684 ("[T]he evidence suggests that [excited delirium syndrome] is not a unique cause of death in the absence of restraint . . . .").

200 Strömmer et al., *supra* note 116, at 681 (footnotes omitted).

201 *See supra* section I.A, pp. 1506–08.

202 *See supra* notes 151–152 and accompanying text.

203 Gonin et al., *supra* note 112, at 552.

validity of the term's application as most studies are simply not designed to do so. However, other types of "errors" are important to understand. Both meta-analyses highlight the unique role of police presence and use of restraints in situations where excited delirium is thought to manifest. Gonin, Beysard, Yersin, and Carron write that:

> [T]his syndrome appears to be particularly relevant for police agencies. [Excited delirium syndrome] is in question in more than 3% of police interventions that require the use of force and . . . more than 10% of deaths in police custody. At the same time, severe [excited delirium syndrome] requiring out-of-hospital restraint is observed in fewer than two cases for 10,000 advanced life support EMS calls.[204]

Strömmer, Leith, Zeegers, and Freeman further emphasize the role of restraint and excited delirium diagnoses:

> [T]he more likely it is that a death resulted from restraint, the more likely it is that the death will be attributed to [excited delirium syndrome], which allows for the restraint to be ignored as a cause. Thus, the evidence suggests that [excited delirium syndrome] is not a unique cause of death in the absence of restraint, and that the supposition to the contrary is an artifact of circular reasoning and confounding rather than an evidence-based inference. While it is possible that [excited delirium syndrome] is a fatal condition in the absence of restraint, *there is no observational evidence to support this hypothesis in the biomedical literature at the present time*.[205]

While both studies' overall sentiment is that they are open to the possibility that excited delirium exists, they collectively raise serious questions about how excited delirium may be erroneously applied in a manner that uses a supposed psychiatric problem to mask deaths that may have occurred due to police abuse.[206] This type of "error" should be of particular interest to courts reviewing the admissibility of expert testimony concerning excited delirium in § 1983 litigation where the police are accused of using excessive force.

The fourth piece of guidance from Rule 702 regarding admissibility of expert witness testimony speaks to standardization,[207] or what the Court describes as "the existence and maintenance of standards controlling the technique's operation," citing *United States v. Williams*[208] as an example of a case in which a "professional organization[]" used a "standard governing spectrographic analysis."[209] The issue of standards might be where the scientific conversation about excited delirium is at its weakest. Gonin, Beysard, Yersin, and Carron state that the objective of their meta-analysis is to "clarify the definition, epidemiology, and

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[204] *Id.* at 561.

[205] Strömmer et al., *supra* note 116, at 684 (emphasis added).

[206] *See id.*; Gonin et al., *supra* note 112, at 561.

[207] *See supra* notes 151–152 and accompanying text.

[208] 583 F.2d 1194 (2d Cir. 1978).

[209] Daubert v. Merrell Dow Pharms., Inc., 509 U.S. 579, 594 (1993) (citing *Williams*, 583 F.2d at 1198).

pathophysiology of excited delirium syndrome . . . and to summarize evidence-based treatment recommendations."[210] What they found is little definitional consistency,[211] confounding evidence due to the presence of police,[212] and few standardized treatment guidelines.[213] Thus, the existing research on excited delirium does not reflect the level of standardization that Rule 702 seeks.

Lastly, with regard to the fifth guiding principle concerning general acceptance in the field,[214] scientific and medical communities clearly struggle with the concept of excited delirium. To be sure, the American College of Emergency Physicians had shown support for excited delirium as a legitimate diagnosis,[215] although it has recently moved away from this position to endorse a largely undifferentiated variation of the diagnosis that it terms "hyperactive delirium with severe agitation."[216] Yet, despite this initial support, larger professional organizations such as the American Medical Association[217] and the American Psychiatric Association[218] have specifically stated their opposition to using excited delirium as a diagnostic term. This is in addition to the term's absence from the main diagnostic handbooks.[219] The *Daubert* court anticipated this type of conflicting professional acceptance by noting that "[w]idespread acceptance can be an important factor in ruling particular evidence admissible, and 'a known technique which has been able to attract only minimal support within the community' may properly be viewed with skepticism."[220]

These standards on admissibility of expert witness testimony, viewed in light of what we know about excited delirium, suggest that federal courts might be highly skeptical of allowing the presentation of such evidence to a jury. However, that has not been the case. While the scientific community has largely discredited excited delirium, federal

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[210] Gonin et al., *supra* note 112, at 552.

[211] *Id.* at 561 ("Because the definition of [excited delirium syndrome] remains mostly syndromic and based on clinical criteria, it is prone to subjectivity. . . . The criteria most frequently cited are hyperaggressive behavior with superhuman strength and a combative attitude toward the police, hyperactivity, bizarre behaviors, unusual pain tolerance, and hyperthermia. However, these criteria do not occur with equal frequency and none of them appear to be mandatory." (footnotes omitted)).

[212] *Id.* ("[A] major proportion of fatal [excited delirium syndrome] (38% to 86%) is observed in the context of police custody." (footnotes omitted)).

[213] *Id.* ("The treatment of [excited delirium syndrome] remains nonspecific and symptomatic.").

[214] *See supra* notes 151–152 and accompanying text.

[215] *See* AM. COLL. OF EMERGENCY PHYSICIANS, *supra* note 106, at 18.

[216] *See* AM. COLL. OF EMERGENCY PHYSICIANS, *supra* note 109, at 5. ACEP formally withdrew its 2009 white paper in support of excited delirium and reaffirmed its support of an alternative term, hyperactive delirium. *See ACEP Reaffirms Positions on Hyperactive Delirium*, *supra* note 108.

[217] Press Release, Am. Med. Ass'n, *supra* note 48.

[218] AM. PSYCHIATRIC ASS'N, *supra* note 47.

[219] *See* Strömmer et al., *supra* note 116, at 681.

[220] Daubert v. Merrell Dow Pharms., Inc., 509 U.S. 579, 594 (1993) (citation omitted) (quoting United States v. Downing, 753 F.2d 1224, 1238 (3d Cir. 1985)).

courts have, for the most part, embraced it as a real and legitimate medical diagnosis that can (among other things) explain how and why someone might die in police custody. This raises an important question: How did excited delirium become recognized in federal courts when the evidence for the claim is thin and mostly not accepted by relevant professional communities?

III. How Law Came to Embrace Excited Delirium

A. Methods

To better understand how expert witness testimony about excited delirium became acceptable among federal courts, I worked with research assistants to identify all federal district court written opinions (using Westlaw) that contained the phrase "excited delirium," starting with the term's first appearance in a federal case in 1998 and ending with the 2023 calendar year. This search resulted in 253 individual decisions (with a total of 359 excited delirium–related filings from these cases).[221]

Figure 1: Excited Delirium Case Filings

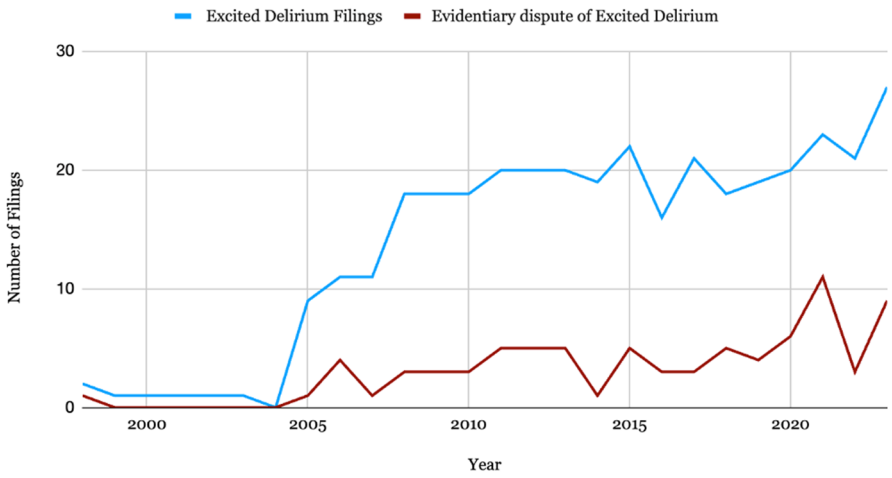

Figure 1 demonstrates the number of filings between 1998 and 2023 where (a) excited delirium was mentioned in general and (b) there is a particular evidentiary dispute about excited delirium. While excited delirium was ostensibly discovered in the 1980s, there was not a meaningful uptick in filings until 2005. This might be explained by the 2005 publication of the book *Excited Delirium Syndrome: Cause of*

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[221] Search last updated in February 2024.

Death and Prevention by Theresa and Vincent Di Maio.[222] Vincent Di Maio served as an expert witness on many cases where he testified in support of excited delirium being a real (and deadly) medical condition[223] — often on behalf of law enforcement.[224] Thus, one explanation for the spike in filings after 2005 is that a book by this repeat expert witness may have popularized the term, making it more available as an alternative theory for how or why someone might die unexpectedly. Another explanation for the 2005 spike could be the increased use of tasers by law enforcement. Data from *Reuters* shows that there was a dramatic increase in the number of wrongful death lawsuits that involved taser guns from 2004 to 2009,[225] which roughly corresponds to the increase in excited delirium filings.[226] TASER International (now called Axon Enterprise[227]) has been an avid supporter of research on excited delirium[228] and has provided direct compensation to consultants who speak favorably about its product and provide expert testimony in court.[229]

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[222] DI MAIO & DI MAIO, *supra* note 105.

[223] DA SILVA BHATIA ET AL., *supra* note 104, at 4, 26.

[224] *See* Altaf Saadi et al., Comment, *End the Use of "Excited Delirium" as a Cause of Death in Police Custody*, 399 THE LANCET 1028, 1029 (2022); Sam Roberts, *Dr. Vincent DiMaio, Pathologist in Notorious Murder Cases, Dies at 81*, N.Y. TIMES (Oct. 14, 2022), https://www.nytimes.com/2022/10/14/us/dr-vincent-dimaio-dead.html [https://perma.cc/TPP6-BG8L].

[225] Jason Szep et al., *Taser by the Numbers*, REUTERS, https://fingfx.thomsonreuters.com/gfx/rngs/USA-TASER/0100503306S [https://perma.cc/X9AB-8BGT].

[226] *See supra* Figure 1, p. 1530; *see also* Szep et al., *supra* note 100 ("[E]xcited delirium has been listed as a factor in autopsy reports, court records or other sources in at least 276 deaths that followed Taser use since 2000 . . . . And in at least 30 of 128 lawsuits against the company, the condition was cited as a factor, either by Taser, its expert witnesses or municipalities whose police used the weapon. In all but one of those cases, Taser's defense prevailed . . . with excited delirium often one plank in the winning legal argument.").

[227] *See Trademark*, AXON, https://www.axon.com/taser-brand-information [https://perma.cc/D2PQ-J3S5].

[228] *See* Szep et al., *supra* note 100 ("Taser's police ties are part of its broader effort to shape the discussion of its weapons' role in any deaths. The company calls its stun guns 'the most studied' of all police weapons besides firearms. A good portion of this research is financially backed by Taser. On its website, Taser posts an index of 745 studies, articles, presentations, letters and other published material on its stun guns' safety. Taser identifies at least 151 of those reviews — 20 percent — as being funded wholly or partly by the company. Reuters found 72 more research documents on the list in which at least one author had been paid by Taser as an employee or consultant. Adding those, Taser has financial ties with nearly 30 percent of the research it cites. Taser promotes this research in conferences and programs, some hosted free at its Scottsdale, Arizona, headquarters.").

[229] *Id.* ("Taser often offers its experts' help to police immediately after a death. Prominent among them is Jeffrey Ho, a Minneapolis emergency physician and Taser's contract medical director since 2009. . . . Ho has been a company consultant since 2004 and has written scores of studies, presentations and papers on Tasers. He has spoken out against reports suggesting multiple Taser shocks can be dangerous. In 2015–2016, Taser paid his employer, Hennepin County Medical Center, nearly $250,000 to help fund his position and reserve a portion of his time for Taser research, the center told Reuters. Under that deal, Ho spends 300 or more hours a year on Taser-related work, according to court testimony from Ho in 2008. The company also has paid him as much as $70,000 a year for 'outside work,' such as lawsuit testimony, court records show.").

We then narrowed the list to the sixty-two cases that involved evidentiary issues, which generated a total of eighty-one filings. The main dataset was further limited to cases where the court engaged in a substantive or extended discussion about the admissibility of expert testimony regarding excited delirium. This resulted in fourteen key cases. When available, I examined not only the decisions made by the court but also documents submitted by the parties as part of the litigation.

Given the rather niche research question, the resulting dataset is relatively small and does not present the entire universe of instances in which a federal court might confront excited delirium. In the decisions that were not part of the final dataset, courts mentioned excited delirium in mostly descriptive terms, indicating that excited delirium was presented to the court, but the court did not have to rule on its admissibility. Sometimes that was because excited delirium was not contested by the parties; other times it was for reasons that were not clear. While the dataset informing this work is not large, it does provide important insight into federal courts' inner logics in terms of how they put the guiding standards from Rule 702 in conversation with facts on the ground regarding excited delirium. Moreover, we can trace the impact of these decisions by how subsequent federal courts refer to these more in-depth deliberations and decisions to justify admitting expert witness testimony on excited delirium in their own cases. These fourteen key decisions can be divided into five *primary cases*, where a party seeks to exclude testimony on excited delirium because they argue it is not legitimate and the court makes a ruling,[230] and nine *secondary cases*, where the court is not being asked to decide questions about admissibility of expert testimony on excited delirium generally (or it chooses not to) but nevertheless engages in a discussion about the diagnosis.[231]

Although excited delirium has not been acknowledged by much of the medical community (and at times has been explicitly rejected),[232] all of the primary cases within the dataset that featured federal courts reviewing the admissibility of expert witness testimony concerning excited

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[230] Pirolozzi v. Stanbro, No. 07-CV-798, 2009 WL 1441070, at *5–6 (N.D. Ohio May 20, 2009); Weigel v. Cox, No. 04-CV-355, 2010 WL 11590909, at *2–3 (D. Wyo. Mar. 18, 2010); Estate of Barnwell v. Roane County, No. 13-CV-124, 2016 WL 1457928, at *1–2 (E.D. Tenn. Apr. 12, 2016); Silva v. Chung, No. 15–00436, 2019 WL 2195201, at *1, *4 (D. Haw. May 21, 2019); Todero v. Blackwell, No. 17-cv-01698, 2021 WL 4472550, at *2–3 (S.D. Ind. Sept. 30, 2021).

[231] Price v. County of San Diego, 990 F. Supp. 1230, 1240–41 (S.D. Cal. 1998); Gutierrez v. City of San Antonio, 139 F.3d 441, 444, 451 (5th Cir. 1998); Lewis v. City of Hayward, No. 03-5360, 2006 WL 436134, at *8 (N.D. Cal. Feb. 21, 2006); Alvarado v. City of Los Angeles, No. CV 04-0385, 2007 WL 4105657, at *2 (C.D. Cal. Apr. 5, 2007); Mann v. Taser Int'l, Inc., 588 F.3d 1291, 1299, 1304, 1307 (11th Cir. 2009); Glowczenski v. Taser Int'l, Inc., No. CV 04-4052, 2012 WL 976050, at *2–3 (E.D.N.Y. Mar. 22, 2012); M.H. v. County of Alameda, No. 11-cv-02868, 2015 WL 894758, at *2–3, *6 (N.D. Cal. Jan. 2, 2015); Galack v. PTS of Am., LLC, No. 13-CV-0288, 2015 WL 5692327, at *1–5, *8–15, *18 (N.D. Ga. July 6, 2015); Lombardo v. St. Louis City, No. 16-CV-01637, 2019 WL 414773, at *6–7, *13–15 (E.D. Mo. Feb. 1, 2019).

[232] *See* Press Release, Am. Med. Ass'n, *supra* note 48.

delirium concluded that such testimony met Rule 702 and that it was reliable enough to present to a jury.[233] This Article is primarily interested in how this state of affairs came to be. What were the logics and decisional processes that led to a consensus among federal courts that expert witness testimony on excited delirium is admissible despite almost conclusive evidence from the scientific and medical literature that it is not a legitimate diagnosis? The next section will trace how this occurred by organizing a discussion of these cases in three "moves" or developments that occurred in this area of law: (1) the emergence of excited delirium within federal courts as a "widely accepted" condition in medicine, which had a reverberating effect throughout the federal bench; (2) courts' rejection of direct challenges to excited delirium evidence; and (3) a growing reliance on other courts' decisions to justify admission of excited delirium evidence.

B. Examination of Cases

1. Excited Delirium Framed as "Widely Accepted." — In 2009, the Eleventh Circuit decided *Mann v. Taser International, Inc*.[234] This case concerned Melinda Neal Fairbanks, a woman who was experiencing an emotional disturbance and was handcuffed, shackled, and tased by the police.[235] She died, and her family brought an excessive use of force claim pursuant to 42 U.S.C § 1983 along with other state claims against the officers as well as a product liability claim against TASER International.[236] One argument made by the plaintiffs was that the decedent was experiencing excited delirium while she was in police custody, and that the police's failure to render appropriate aid "constitute[d] deliberate indifference."[237] They offered an expert witness to provide testimony on excited delirium to make their case that police should have known that Fairbanks needed medical assistance, not force.[238]

The Eleventh Circuit made an interesting move in arguing that excited delirium is not well-known enough to expect officers to understand

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[233] *See, e.g.*, *Pirolozzi*, 2009 WL 1441070, at *6; *Weigel*, 2010 WL 11590909, at *3; *Barnwell*, 2016 WL 1457928, at *2–3; *Silva*, 2019 WL 2195201, at *2–4; *Todero*, 2021 WL 4472550, at *2–3. It is important to note that since the 2023 Amendment to Rule 702 did not go into effect until December 2023 (the last month of the dataset), the new guidance from this amendment was not part of the analysis of the data I collected.

[234] 588 F.3d 1291 (11th Cir. 2009).

[235] *Id.* at 1299–300.

[236] *Id.* at 1301.

[237] *Id.* at 1307 ("Plaintiffs assert that the deputies were on notice of Melinda's 'excited delirium' and their failure to take her for immediate medical treatment constitutes deliberate indifference. The record, when viewed in the light most favorable to the Plaintiffs indicates that when Deputies Giles, Griffin and Parker arrived, Melinda was agitated and delusional. Plaintiff Ruby Mann and Sonya Pamela Neal both told Deputy Parker that Melinda was sick and needed to go to the hospital. Deputy Griffin had knowledge of Melinda's past methamphetamine use and when Deputy Griffin called EMS, he reported that Melinda was acting 'crazy.'").

[238] *Id.* at 1304, 1307.

what was happening to Fairbanks[239] yet, at the same time, asserting that excited delirium is a real condition that is "widely accepted."[240] The court stated in a footnote that:

> Although not a validated diagnostic entity in either the International Classification of Diseases or the Diagnostic and Statistical Manual of Mental Disorders, "excited delirium" is a *widely accepted* entity in forensic pathology and is cited by medical examiners to explain the sudden in-custody deaths of individuals who are combative and in a highly agitated state. "Excited delirium" is broadly defined as a state of agitation, excitability, paranoia, aggression, and apparent immunity to pain, often associated with stimulant use and certain psychiatric disorders. The signs and symptoms typically ascribed to "excited delirium" include bizarre or violent behavior, hyperactivity, hyperthermia, confusion, great strength, sweating and removal of clothing, and imperviousness to pain. Speculation about triggering factors include sudden and intense activation of the sympathetic nervous system, with hyperthermia, and/or acidosis, which could trigger life-threatening arrhythmia in susceptible individuals.[241]

The court cites one report from an annual meeting of the American Medical Association to substantiate its "widely accepted" claim.[242] That 2009 report by the American Medical Association House of Delegates, chaired by Carolyn Robinowitz, appears to be a key source for the Eleventh Circuit in that it similarly states that "'excited delirium' is a widely accepted entity in forensic pathology and is cited by medical examiners to explain the sudden in-custody deaths of individuals who are combative and in a highly agitated state."[243] In making these broad claims about the "widely accepted" nature of excited delirium, the Robinowitz Report cites to only one article titled *Excited Delirium: Education, Research, and Information* by the Brain Endowment Bank at the University of Miami School of Medicine.[244] The html link provided for the citation is no longer operational, no authors are listed with the citation, and searches for this document do not yield any results. However, Professor Deborah Mash — Professor of Medicine at the University of Miami, one-time director of the Brain Endowment

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[239] *Id.* at 1307 ("[T]he record clearly indicates that prior to this event, the deputies had no knowledge of the medical condition called 'excited delirium' or its accompanying risk of death. Plaintiffs have presented no evidence that indicates that the deputies were aware of the serious risk of harm that a delay in treatment could [have] caused Melinda — an essential element of a deliberate indifference claim.").

[240] *Id.* at 1299 n.4.

[241] *Id.* (emphasis added) (quoting CAROLYN B. ROBINOWITZ, AM. MED. ASS'N, REPORT 6 OF THE COUNCIL ON SCIENCE AND PUBLIC HEALTH: USE OF TASERS® BY LAW ENFORCEMENT AGENCIES 6 (2009), https://www.ama-assn.org/sites/ama-assn.org/files/corp/media-browser/public/about-ama/councils/Council%20Reports/council-on-science-public-health/a09-csaph-tasers.pdf [https://perma.cc/T2ZE-FTPR]).

[242] *Id.*

[243] ROBINOWITZ, *supra* note 241, at 6.

[244] *Id.* at 13 n.45.

Bank,[245] and protégé of Wetli[246] — may be behind this report. Not only has Mash written widely on excited delirium, but she has also repeatedly served as a paid expert witness for TASER International to argue that excited delirium, not Taser guns, is the cause of these deaths in police custody.[247]

The "widely accepted" phrasing from *Mann* has become a foundational concept that is cited verbatim and repeated by federal judges in many cases concerning the admissibility of expert witness testimony that explores the existence and legitimacy of excited delirium as a medical diagnosis.[248] Yet the aforementioned string of citations shows that this claim, which has led legal conversations on excited delirium to be more accepting than those in medicine and science, stems from a singular citation to an article that was likely written not only by a collaborator of the person who coined the term "excited delirium," but who also was (or eventually became) a paid consultant for TASER International — the defendant in this case — to shield the company from liability by promoting excited delirium as a real diagnosis. If this is the evidentiary and doctrinal foundation of federal courts' openness to expert witness testimony on excited delirium, then serious questions about this practice must be raised.

2. Courts Reject Direct Challenges to Excited Delirium Evidence. — We began to see direct challenges to the admissibility of expert witness testimony on excited delirium in federal courts in 2009. *Pirolozzi v. Stanbro*,[249] a case from the Northern District of Ohio, concerned a death in police custody where an individual was tased and restrained by law enforcement.[250] The plaintiff attempted to strike expert witness testimony from two researchers whose work supported excited delirium as a medical diagnosis, Vincent Di Maio and Tom Neuman.[251] The plaintiff challenged the impartiality and neutrality of the experts, noting that they "traveled around the country testifying solely on behalf of police officers accused of killing people."[252] They also highlighted Di Maio's dedication in his book on excited delirium,

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[245] *Deborah Mash*, CRUNCHBASE, https://www.crunchbase.com/person/deborah-mash-phd [https://perma.cc/JT34-NGWJ].

[246] Szep et al., *supra* note 100.

[247] *See id.*

[248] *See, e.g.*, Lass v. County of Orange, No. 08-01132, 2010 WL 11561183, at *1 (C.D. Cal. Sept. 17, 2010) ("Excited delirium is a 'widely accepted entity in forensic pathology.'" (quoting Mann v. Taser Int'l, Inc., 588 F.3d 1291, 1299 n.4 (11th Cir. 2009))); Slone v. Judd, No. 09-CV-1175, 2011 U.S. Dist. LEXIS 31582, at *37 n.10 (M.D. Fla. Mar. 25, 2011) (same); Nelson v. Lott, 330 F. Supp. 3d 1314, 1326 n.60 (N.D. Ala. 2018) (same); Silva v. Chung, No. 15-00436, 2019 WL 2195201, at *3 (D. Haw. May 21, 2019) (same).

[249] 556 F. Supp. 2d 783 (N.D. Ohio 2008).

[250] *Id.* at 786, 791.

[251] Pirolozzi v. Stanbro, No. 07-CV-798, 2009 WL 1441070, at *5 (N.D. Ohio May 20, 2009).

[252] Plaintiff's Motion to Strike Defendants' Experts, Dr. Vincent Di Maio and Dr. Tom Neuman at 2, *Pirolozzi*, No. 07-CV-798, ECF No. 198.

where he said the book was for "all law enforcement and medical personnel who have been wrongfully accused of misconduct in deaths due to 'excited delirium.'"[253] They argued that Neuman's study on asphyxia and how it could not cause death was based on a "flimsy and unrepresentative" sample that was prepared for a different case.[254]

The district court rejected these arguments.[255] It noted that a study prepared for another case being reused for this one was simply one of many factors to consider in relation to reliability, and that the experts' testimony "amply me[t]" other aspects of reliability including "testing, peer-review publications, and acceptance in the scientific community."[256] Curiously, the court provided no evidence or citation to support this statement about the reliability of Di Maio and Neuman's work. Ultimately, the court said that these objections spoke to "the weight to be accorded the experts' testimony"[257] and not admissibility per se since they were not about relevance or qualifications and therefore should not be excluded by the judge.[258]

Shortly afterward in 2010, a federal district court in Wyoming heard *Weigel v. Cox*,[259] a case where Bruce Weigel died after a struggle with state troopers on the side of a road.[260] The plaintiffs sought a more direct challenge to excited delirium by arguing that expert witness testimony that Weigel suffered from this condition should be excluded since it was not generally accepted in the medical community.[261] Di Maio was also part of this litigation, and the plaintiffs sought to exclude his testimony, due to its unreliability, along with the testimony of another defense expert.[262] The court held a hearing on "whether the phenomenon of excited delirium in general is admissible" under Rule 702.[263] A review of the hearing transcript demonstrates how plaintiffs in excited delirium cases can offer evidence regarding issues and problems with the diagnosis and how federal courts can conveniently sidestep these concerns.

The hearing began with opening statements by both parties followed by a conversation between Di Maio and the defendants' attorney about the theory of excited delirium and scientific evidence in support of it. In her opening statement, the defendants' lawyer relied heavily on research by Mash:

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253 *Id.* (quoting DI MAIO & DI MAIO, *supra* note 105, at v).
254 *Id.* at 1–2.
255 *Pirolozzi*, 2009 WL 1441070, at *6.
256 *Id.*
257 *Id.*
258 *Id.* at *4–5.
259 No. 04-CV-355, 2010 WL 11590909 (D. Wyo. Mar. 18, 2010).
260 *Id.* at *1.
261 Plaintiff's Motion to Exclude Testimony of Vincent Di Maio, M.D. at 3, *Weigel*, No. 04-CV-355, ECF No. 102.
262 *Id.* at 2; *Weigel*, 2010 WL 11590909, at *1.
263 *Weigel*, 2010 WL 11590909, at *1–2.

> The excited delirium studies have been conducted by analyzing brain slides postmortem in individuals that are thought to have suffered from excited delirium. These studies show that the biological mechanism of this illness is in the brain chemistry. There are actually lesions on the brain that are seen in these slides. And the cause of death is a cardiac event not related to the ventilatory system such that its victims would be more susceptible to positional or restraint asphyxia.
>
> . . .
>
> Dr. Debra [sic] Mash and others have found the brain or biomarkers that indicate excited delirium and confirm the mechanism of death. And we can now do those studies postmortem. We can take brain slides, and they can be analyzed and that those brain lesions, biomarkers can be seen.[264]

They also relied on the 2009 white paper by ACEP.[265] The plaintiffs' attorney responded to these claims by pointing out that excited delirium is not recognized by diagnostic guidebooks or the American Medical Association, and that Di Maio "wrote the book on it [and] will admit it hasn't been fairly peer reviewed."[266] She continued by noting that excited delirium is "not generally accepted; it is generally debated. There are no studies, none."[267] The plaintiffs' attorney brought the court's attention to the fact that, as described by the Gonin, Beysard, Yersin, and Carron and Strömmer, Leith, Zeegers, and Freeman metastudies of research on excited delirium, struggle and restraint are almost always a part of excited delirium deaths in custody, meaning that death only follows when the police attempt to restrain the person.[268]

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[264] Transcript of Hearing Proceedings: *Daubert* Hearing at 11–12, *Weigel*, No. 04-CV-355, ECF No. 125.

[265] *Id.* at 14. The attorney further asserted:

> It will be even more interesting to see how this line of reasoning proceeds given the most recent and probably the most compelling new information on the issue of sudden in-custody death, and this new information comes in the form of a white paper prepared and accepted by the American [College] of Emergency Physicians, and it is specifically entitled Excited Delirium Syndrome.
>
> This white paper was filed as supplemental authority in this case, and it provides the best and most current overview of the science that supports excited delirium.
>
> I think the Court will find, if it reads that paper, that it reads like a summary of the Weigel circumstances. And it illustrates why these cases often involve law enforcement, and that's because generally law enforcement is called because these people are acting in a bizarre manner, and the situation deteriorates to the point where law enforcement is contacted. Law enforcement is then, as acknowledged by the white paper, placed in a very difficult and dangerous situation of dealing with an irrational person who is exhibiting superhuman strength and not obeying commands.

Id. *See generally* AM. COLL. OF EMERGENCY PHYSICIANS, *supra* note 106 (report referenced in hearing).

[266] Transcript of Hearing Proceedings: *Daubert* Hearing, *supra* note 264, at 29.

[267] *Id.*

[268] *See id.* ("Excited delirium syndrome, then, takes the excited delirium clinical factors and adds struggle and restraint. Excited delirium is the — the testimony will be that excited delirium is not necessarily fatal, but once you add struggle and restraint excited delirium syndrome usually is. So

The court decided that excited delirium as a theory and Di Maio's testimony were both admissible.[269] It noted that excited delirium is "widely recognized in the area of pathology"[270] and that "development of this diagnosis, according to the exhibits submitted to the Court, is based on observation of subjects who generally display a particular suite of symptoms including erratic behavior, hyperthermia, and great strength."[271] While acknowledging that "none of the supporting science involves a controlled experiment,"[272] the court nevertheless concluded that "[t]he condition has been observed in connection with various presumed causes, most frequently cocaine use, but also including severe mental illnesses" and that while "[t]he precise mechanism has been largely unknown . . . researchers have recently observed a correlation between excited delirium and several biological markers."[273] Mash's research was the only support provided for this last proposition.[274] Ultimately, the court found that the "documented connection between excited delirium and certain biological characteristics" was enough to support that excited delirium is admissible testimony per Rule 702.[275]

3. Courts Rely on Prior Decisions to Continue to Admit Testimony on Excited Delirium Despite Growing Evidence of Its Problems. — After *Pirolozzi* and *Weigel* put the legitimacy of excited delirium expert witness testimony directly before federal courts for the first time, plaintiffs in three later cases attempted to have a federal court revisit the issue and apply Rule 702 in a way that might acknowledge some of the many shortcomings of this diagnosis. Despite being presented with mounting evidence, federal courts continued to hold that testimony about excited delirium is admissible.

Estate of Barnwell v. Roane County[276] is a 2016 decision out of the Eastern District of Tennessee that involved the death of Dustin Barnwell after he was physically restrained by police and had a chemical restraint administered to him by medics at the scene.[277] The plaintiff filed a § 1983 suit, among other claims, against the municipality and officers and sought to exclude testimony by Dr. Steven Cogswell who

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it bothers me that the only difference is you have a restraint with a police officer or with a medical personnel. Excited delirium syndrome excuses excessive force because if he had excited delirium syndrome then he would have died anyway. Testimony will bear out the certain problems with excited delirium syndrome. It is not a diagnosed disease."); Gonin et al., *supra* note 112, at 562; Strömmer et al., *supra* note 116, at 681.

269 *Weigel*, 2010 WL 11590909, at *3–4.

270 *Id.* at *2.

271 *Id.*

272 *Id.* at *3.

273 *Id.* at *2 (citing Mash et al., *supra* note 102).

274 *Id.* (citing Mash et al., *supra* note 102).

275 *Id.* at *3.

276 No. 13-CV-124, 2016 WL 1457928 (E.D. Tenn. Apr. 12, 2016).

277 *See id.* at *1.

said that Barnwell died from excited delirium.[278] The plaintiff's motion highlighted that excited delirium has not been acknowledged by diagnostic manuals and most mainstream professional organizations.[279] It also included a letter to the editor of *Emergency Medicine Journal* that said "[u]ntil more data are available and a physiologic explanation found, caution should be exercised when considering [excited delirium] as a 'cause of death.'"[280] Moreover, the plaintiff also introduced new evidence from a 556-page report that detailed the results of a two-year inquiry into excited delirium chaired by a retired British Columbia Court of Appeal Justice.[281] Plaintiff's counsel noted that Justice Braidwood and the commission "concluded that the term *excited delirium* had been rejected by medical professionals and was being used to cover up actual causes of deaths in custody, especially those involving excessive restraint and Tasers."[282]

Despite this newly available evidence, the court concluded that testimony regarding the diagnosis was admissible.[283] "[T]he [c]ourt note[d] that several professional publications recognize excited delirium as a real syndrome" and that "[w]hile there may be multiple etiologies for excited delirium . . . this alone is not sufficient to exclude any mention of the diagnosis."[284] In finding the proffered witness's testimony admissible, the court made a point to note that "Dr. Cogswell testified that

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[278] *Id.* In his deposition, Dr. Cogswell provided an odd and unsubstantiated explanation for how excited delirium might manifest and kill someone under police restraint:

> Cyclobenzaprine, just like all the rest of the tricyclics, is prone to effect in both serotonin and norepinephrine. And with an increase in serotonin there's a risk of what's called serotonin syndrome which can in and of itself be fatal, acting in a neurologic basis. Increasing norepinephrine, because that's one of the cardiac stimulants, that is going to obviously have an effect on the heart. And both serotonin and norepinephrine are two of the — the compounds that are closely associated with the whole excited delirium syndrome, particularly norepinephrine because that acts to increase the heart workload drastically because it's stimulating the heart in the same way that amphetamine or cocaine would do. Those both cause norepinephrine release. And at the same time the potassium in the blood is lowered, and this is particularly problematic because the heart absolutely needs a very specific narrow range of potassium in the blood for its ability to function properly. And that's basically why the folks who have excited delirium syndrome are — are dying is because they have this norepinephrine surge with at the same time a drop in potassium and that combination, along with the serotonin and other things, causes their heart to fail and so they die.

Deposition of Steven C. Cogswell, M.D. at 39–40, *Estate of Barnwell*, No. 13-CV-124.

[279] Memorandum of Law in Connection with Plaintiff's Motion for a *Daubert* Hearing Regarding Excited Delirium and to Exclude Testimony and Other Evidence About It at 4, *Estate of Barnwell*, No. 13-CV-124, ECF No. 180.

[280] *Id.* (second alteration in original) (quoting Jared Strote, Letter to the Editor, *Excited Delirium as a Potentially Dangerous Diagnosis*, 31 EMERGENCY MED. J. 256, 256 (2014)).

[281] *Id.* at 4–5 (citing BRAIDWOOD COMM'N ON CONDUCTED ENERGY WEAPON USE, RESTORING PUBLIC CONFIDENCE: RESTRICTING THE USE OF CONDUCTED ENERGY WEAPONS IN BRITISH COLUMBIA 204–05, 262–63 (2009)).

[282] *Id.* (citing BRAIDWOOD COMM'N ON CONDUCTED ENERGY WEAPON USE, *supra* note 281, at 204–05, 262–63).

[283] *Estate of Barnwell*, No. 13-CV-124, at *3.

[284] *Id.*

excited delirium is an accepted diagnosis in the 'forensic pathology community because we're the ones who see it.'"[285] This curious if not entirely circular reasoning is troubling, and highlights the extent to which courts assessing the admissibility of excited delirium have begun to abdicate the unique gatekeeping functions given to them by Rule 702 — at least when it comes to these particular types of hearings. By relying on the fact that "Dr. Cogswell is certified by the American Board of Pathology in anatomic, clinical, and forensic pathology, and he has performed over 5,000 autopsies,"[286] this court moved away from a substantive engagement with the scientific evidence, only to rely on credentials and "we know it when we see it" rationales to allow this expert witness testimony to enter the courtroom.[287]

Three years after *Barnwell*, a federal district court in Hawaii decided *Silva v. Chung*,[288] another case involving police restraint and a Taser discharge shortly preceding a death.[289] Defendants offered excited delirium as the cause of death, and the plaintiff sought to prevent expert testimony on this condition from becoming part of the record.[290] The court said that the concerns raised by the plaintiff go only to "weight, not admissibility,"[291] and that under the Federal Rules of Evidence, federal courts are "not tasked with deciding whether the expert is right or wrong, just whether the testimony has substance such that it would be helpful to the jury."[292]

Silva v. Chung is important in that it is one of the earliest cases concerning the admissibility of expert testimony on excited delirium that *relies heavily on case law* in denying the challenge instead of relying on articles, reports, or the experts' testimony itself. The court quoted the Eleventh Circuit's decision in *Mann* in saying "'excited delirium' is a widely accepted entity in forensic pathology and is cited by medical examiners to explain the sudden in-custody deaths of individuals who are combative and in a highly agitated state."[293] The *Silva* court also noted that "[n]umerous federal district courts have found expert testimony regarding Excited Delirium Syndrome to be sufficiently reliable and

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[285] *Id.* (quoting Deposition of Steven C. Cogswell, M.D., *supra* note 278, at 40).

[286] *Id.* (citing Deposition of Steven C. Cogswell, M.D., *supra* note 278, at 8–9).

[287] *See generally* Brandon L. Garrett & Gregory Mitchell, *The Proficiency of Experts*, 166 U. PA. L. REV. 901 (2018) (identifying and critiquing federal courts' use of expert witnesses' credentials as a proxy for proficiency in a scientific field).

[288] No. 15-00436, 2019 WL 2195201 (D. Haw. May 21, 2019).

[289] *See id.* at *1.

[290] *Id.*

[291] *Id.* at *2.

[292] *Id.* (citing Alaska Rent-A-Car, Inc. v. Avis Budget Grp., Inc., 738 F.3d 960, 969 (9th Cir. 2013)).

[293] *Id.* at *3 (quoting Mann v. Taser Int'l, Inc., 588 F.3d 1291, 1299 n.4 (11th Cir. 2009)).

admissible despite *Daubert* challenges to its admissibility," citing to three other district court opinions, including *Barnwell.*[294]

The court then looked to the circuit court that has appellate jurisdiction over it in order to draw attention to the precedent related to excited delirium's admssibility. The court noted that "[t]he Ninth Circuit Court of Appeals has permitted district courts to rely on expert testimony regarding Excited Delirium Syndrome in granting police officers qualified immunity in Section 1983 cases."[295] Thus, we see in *Silva* the legal routinization of the scientific debate[296] on excited delirium and how federal courts began using legal precedent to displace (or, at least obscure) their own individual assessments of whether the testimony being offered about excited delirium passes muster under Rule 702.

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[294] *Id.* (citing Lass v. County of Orange, No. 08-01132, 2010 WL 11561183, at *1 (C.D. Cal. Sept. 17, 2010); Galack v. PTS of Am., LLC, No. 13-CV-0288, 2015 WL 5692327, at *18 (N.D. Ga. July 6, 2015); Estate of Barnwell v. Roane County., No. 13-CV-124, 2016 WL 1457928, at *3–4 (E.D. Tenn. Apr. 12, 2016)).

[295] *Id.* (citing Marquez v. City of Phoenix, 693 F.3d 1167, 1171 (9th Cir. 2012); Gregory v. County of Maui, 523 F.3d 1103, 1109–10 (9th Cir. 2008)).

[296] To be sure, this routinization was supported by expert witness testimony in the case itself. During the jury trial on direct examination, Dr. Stacey Hail was asked about her methods, to which she responded:

> The next thing to consider is an entity called "the excited delirium syndrome." And you may or may not have heard that there is controversy regarding this diagnosis because there are some that would try to tell you that there is no such thing, and I'm here to tell you that there absolutely is such a thing. There is argument that it is not recognized by the American Medical Association, which is not true, by the way.
>
> Excited delirium syndrome is the far end of the spectrum of the sympathomimetic toxidrome. And so when you look historically at the excited delirium syndrome, a similar entity was described in the 1800s in insane asylums, and this was described by a psychiatrist by the name of Luther Bell. This was in an insane asylum in Massachusetts. And there were individuals that had psychosis, and back then there were no drugs to treat psychosis. And these individuals would get more and more agitated and more and more psychotic until they would developed [sic] delirium, and delirium is a mind body disconnect. The lights are on, but nobody is home. Okay? And individuals that had this had a 75 percent mortality rate. That's a huge mortality rate.
>
> Now, as time went on and antipsychotics were developed, we stopped seeing this syndrome called Bell's Mania, and there were other names that went along with it too, until the 1980s when cocaine was on the rise. And so we as medical toxicologists and emergency physicians have talked about this entity since the 1980s with the cocaine that started infiltrating society.
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> And, finally, in 2008, 2009 a task force got together from the American College of Emergency Physicians — that's one of our professional societies — and they developed a task force to come together, review all of the literature to say that excited delirium syndrome indeed existed. And that was published as a white paper, meaning a physician paper, in 2009, and then the [*Emergency Medicine Journal*] published it in 2011.

Transcript of Jury Trial (Day 5) at 28–30, *Silva*, No. 15-00436. When questioned on cross-examination why several professional medical societies had rebuked excited delirium, Dr. Hail responded:

> I recognize that there are other medical societies that don't recognize it, and that's because they have never seen it. As you can imagine, excited delirium syndrome does not present to the plastic surgeon's office. It does not present to your friendly family practitioner in the community. These are individuals that are encountered by police, paramedics[,] and emergency physicians. And that is why many other professional societies don't recognize it, because they have never seen it or treated it. And as an emergency physician I would treat somebody in excited delirium or along that spectrum at least once a shift.

Id. at 56–57.

In a more recent case from 2021, *Todero v. Blackwell*,[297] we begin to see how the conversation concerning the admissibility of testimony about excited delirium has come to sediment around the idea of precedent and process. The plaintiff argued that expert testimony by Dr. Gary Vilke on excited delirium should have been excluded under Rule 702 since the claim "is not a generally accepted medical diagnosis" and the opinion of the expert witness "is not based on a reliable methodology."[298] In addition to reciting arguments about excited delirium's lack of recognition by major professional bodies, the plaintiff also offered journalistic writings from the *Washington Post*[299] and *Florida Today*[300] that document the problems with excited delirium being used as an explanation for deaths in police custody.[301] The court referenced the 2009 ACEP white paper,[302] pointed to "[l]ater articles in peer-reviewed journals — including articles by Dr. Vilke — [that] also address Excited Delirium Syndrome,"[303] and dismissed the relevance of the newspaper articles.[304] Importantly, following the structure of the argument presented in *Silva v. Chung*, the *Todero* court stated that "[s]everal courts have thus allowed testimony about Excited Delirium Syndrome," and proceeded to cite *Silva*, *Barnwell*, and *Waters v. Coleman*, a 2015 Tenth Circuit decision.[305] The court concluded that "[a]ny remaining questions about the syndrome generally must be left for '[v]igorous cross-examination' and the 'presentation of contrary evidence.'"[306]

C. Discussion

These cases reflect a disturbing trend in how federal courts assess questions about the admissibility of expert witness testimony concerning excited delirium. A few insights can be gleaned. First, the current situation can be fairly understood as a failure of the Federal Rules of Evidence. While *Daubert* and Rule 702 were never intended to be a rigid

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297 No. 17-cv-01698, 2021 WL 4472550 (S.D. Ind. Sept. 30, 2021).

298 *Id.* at *2 (quoting Plaintiff's Memorandum of Law in Support of Her Motion to Bar the Proposed Expert Testimony of Dr. Gary Vilke at 3, *Todero*, No. 17-cv-01698).

299 *Id.* at *3 & n.4 (citing Méabh O'Hare et al., *Police Keep Using "Excited Delirium" to Justify Brutality. It's Junk Science.*, WASH. POST (July 17, 2020), https://www.washingtonpost.com/outlook/chokehold-police-excited-delirium/2020/07/17/fe907ec8-c6bc-11ea-b037-f9711f89ee46_story.html [https://perma.cc/9LWM-E3N9]).

300 *Id.* (citing Sassoon, *supra* note 123).

301 *Id.* at *3.

302 *Id.* at *2 (citing AM. COLL. OF EMERGENCY PHYSICIANS, *supra* note 106, at 1–4).

303 *Id.*

304 *Id.* at *3 ("But Ms. Todero does not explain why media criticism can overcome the journal articles and testimony in the record, or why questions about the most effective treatment show that Excited Delirium Syndrome is an illegitimate diagnosis.").

305 *Id.* at *2 (citing Silva v. Chung, No. 15-00436, 2019 WL 2195201, at *4 (D. Haw. May 21, 2019); Estate of Barnwell v. Roane County, No. 13-CV-124, 2016 WL 1457928, at *3–4 (E.D. Tenn. Apr. 12, 2016); Waters v. Coleman, 632 F. App'x 431, 441 (10th Cir. 2015)).

306 *Id.* at *3 (second alteration in original) (quoting Daubert v. Merrell Dow Pharms., Inc., 509 U.S. 579, 596 (1993)).

or exclusive test for the federal judiciary, they were meant to give judges the ability to look closely at expert witness testimony and make substantive determinations about their credibility.[307] In the notes of the Advisory Committee to the 2000 amendment to Rule 702, the Committee stated that:

> In *Daubert* the Court charged trial judges with the responsibility of acting as gatekeepers to exclude unreliable expert testimony
>
> . . . .
>
> The amendment affirms the trial court's role as gatekeeper and provides some general standards that the trial court must use to assess the reliability and helpfulness of proffered expert testimony. . . .
>
> The amendment requires that the testimony must be the product of reliable principles and methods that are reliably applied to the facts of the case.[308]

This language asserts the gatekeeping function intended by the Federal Rules of Evidence, and suggests that there has been, at some level, an abdication of this responsibility by the federal courts — at least as it pertains to issues concerning excited delirium.[309] To be sure, the Advisory Committee did not intend for federal judges to replace juries in terms of weighing or determining the significance of evidence offered by litigants.[310] However, in situations where the proffered evidence does not meet minimal standards of viability per the guidance set forth in Rule 702, federal judges have a responsibility to not let unreliable science impermissibly impact litigation outcomes. By all accounts, it appears that this responsibility is not being fulfilled insofar as expert witness testimony on excited delirium is being considered.[311] This abdication has had a significant impact on litigants, especially the families of people who died in police custody and are seeking relief through 42 U.S.C. § 1983.[312]

Second, federal courts' current posture toward expert witness testimony on excited delirium seems to be based upon deferring to the medical authority of a small group of specialists while largely ignoring the assessment of the broader medical community. As noted in a previous section, the self-referential nature of citations among this small group gives an inflated credibility to excited delirium, while the rigorous meta-studies demonstrating the absence of scientific merit for the underlying

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307 *See supra* note 152 and accompanying text.

308 FED. R. EVID. 702 advisory committee's notes to 2000 amendment.

309 *See supra* notes 232–233 and accompanying text.

310 FED. R. EVID. 702 advisory committee's notes to 2000 amendment ("*Daubert* did not work a 'seachange over federal evidence law,' and 'the trial court's role as gatekeeper is not intended to serve as a replacement for the adversary system.'" (quoting United States v. 14.38 Acres of Land, More or Less Situated in Leflore Cnty., 80 F.3d 1074, 1078 (5th Cir. 1996))).

311 *See supra* section III.B, pp. 1533–42.

312 *See, e.g.*, Estate of Barnwell v. Roane County, No. 13-CV-124, 2016 WL 1457928, at *1 (E.D. Tenn. Apr. 12, 2016); Mann v. Taser Int'l, Inc., 588 F.3d 1291, 1298 (11th Cir. 2009).

claims, in addition to broader work by journalists and other researchers, receive little mention.[313]

Lastly, one trend to monitor is the extent that federal courts see themselves as *gatekeepers of people and not ideas*. As discussed above in *Barnwell*,[314] some federal courts appear to focus their energy on the credentials of the expert witness offering testimony on excited delirium rather than the substantive ideas put forward and any corresponding evidence.[315] For example, in a recent case from the Eastern District of Tennessee, a plaintiff filed a § 1983 suit (along with other state claims) against a municipality, claiming that officers failed to render appropriate aid to someone who died in police custody after, according to the plaintiff, exhibiting obvious signs of excited delirium that were not adequately treated.[316] The plaintiff offered retired police sergeant Mark Meredith as an expert witness who could confirm the decedent's medical state and the appropriate steps for handling someone experiencing excited delirium.[317] The court did not allow Meredith to provide testimony on whether the decedent experienced excited delirium because he lacked the appropriate credentials.[318] After citing *Mann v. Taser International, Inc.* for the proposition that excited delirium is a "widely accepted" condition,[319] the court went on to exclude the testimony not because of any issues with the underlying concept but because Meredith did not have the qualifications to talk about it.[320] Reducing conversations concerning excited delirium to procedural questions concerning credentials rather than substantive discussions regarding excited delirium as a claim about how someone dies in police custody reifies the term as an ostensibly real medical condition that can be identified with the right training. At the same time, this further erodes the gatekeeping vision that the Federal Rules of Evidence has for federal judges. As the conversation on excited delirium evolves, observers of the court should pay attention to the "credentialization" of excited delirium discussions.

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313 *See supra* section II.D, pp. 1526–30.

314 *See supra* notes 276–287 and accompanying text.

315 *See supra* notes 285–287 and accompanying text.

316 Merrell v. Roane Cnty. Gov't, No. 21-CV-338, 2023 WL 3010171, at *1 (E.D. Tenn. Apr. 19, 2023).

317 *See id.* (quoting Investigation of the Cameron Merrell Incident at 1, *Merrell*, No. 21-CV-338).

318 *See id.* at *6.

319 *Id.* (quoting Mann v. Taser Int'l, Inc., 588 F.3d 1291, 1299 n.4 (11th Cir. 2009)).

320 *See id.* Although the plaintiff claimed that Meredith could testify as to the appropriate response to a case of excited delirium, the court determined that "Meredith appear[ed] to be diagnosing Merrell with excited delirium." *Id.* The court noted that "whether or not [excited delirium] is a medical disorder, Plaintiff does not explain Meredith's qualifications to testify about excited delirium." *Id.* The court ultimately decided to "exercise its gatekeeping function by excluding Meredith's conclusions regarding excited delirium." *Id.* (citing Lombardo v. Saint Louis City, No. 16-CV-01637, 2019 WL 414773, at *15 (E.D. Mo. Feb. 1, 2019)).

IV. POLICY RECOMMENDATIONS

Recently, there has been greater public awareness of the issues surrounding excited delirium.[321] California became the first state to ban law enforcement, coroners, and other healthcare professionals from using excited delirium as a medical diagnosis or cause of death.[322] Colorado and Minnesota followed shortly afterward with similar legislation.[323] However, since these and other state-level reforms only impact what state actors can do,[324] excited delirium will likely continue to be an issue in federal courts and their evidentiary proceedings — especially with regard to § 1983 litigation concerning police use of force. This Article argues that other states and federal courts should follow California's lead and abandon excited delirium as an official cause of death or medical diagnosis. While that moment may be some time away, this Part offers three modest interim recommendations that can assist federal courts as they assess the admissibility of expert witness testimony on excited delirium.

As a primary matter, each assessment of excited delirium needs to be new and not rely upon precedent from previous decisions to justify the

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[321] *See, e.g.*, Alisha Ebrahimji & Julia Vargas Jones, *How a Term Widely Debunked by Medical Groups Came Up in D'Vontaye Mitchell's Death Inquiry*, CNN (Aug. 13, 2024, 3:19 PM), https://www.cnn.com/2024/08/13/us/excited-delirium-dvontaye-mitchell-death/index.html [https://perma.cc/M9H5-2LSV]; Kori Suzuki, *Federal Judge Bans "Excited Delirium" from Upcoming Chula Vista Police Misconduct Trial*, KPBS (Apr. 10, 2024, 5:30 PM), https://www.kpbs.org/news/public-safety/2024/04/10/federal-judge-bans-excited-delirium-from-upcoming-chula-vista-police-misconduct-trial [https://perma.cc/F5D4-MW8U]; Katie Moore, *JP Coroner Agrees to Remove "Excited Delirium" from Autistic Teen's Death Certificate,* 4WWL (Apr. 15, 2024, 6:13 PM), https://www.wwltv.com/article/news/investigations/katie-moore/jefferson-parish-coroner-agrees-to-remove-excited-delirium-from-autistic-teens-death-certificate/289-82494eef-3d75-4d72-bd71-7147b97f3538 [https://perma.cc/4REY-QXNN].

[322] *See* CAL. EVID. CODE § 1156.5 (West 2024); CAL. HEALTH & SAFETY CODE § 24403 (West 2024). This legislation was signed into law by Governor Gavin Newsom in October 2023 after tireless advocacy from the family of Angelo Quinto, *see supra* notes 1–19 and accompanying text, who led the "Justice for Angelo Quinto" coalition in promoting AB 360 (Angelo Quinto Act) after Antioch police killed Quinto and characterized him as having died from excited delirium. *See* Daniela Pardo & Jackson Ellison, *Antioch Family Led the Effort to Ban Excited Delirium Diagnosis in California*, SPECTRUM NEWS 1 (Dec. 15, 2023, 5:00 AM), https://spectrumnews1.com/ca/southern-california/inside-the-issues/2023/12/15/antioch-family-led-the-effort-to-ban-excited-delirium-diagnosis-in-california [https://perma.cc/NHH5-KUP6]; Claire Wang, *The Filipino American Family Behind Calif.'s New Police Reform Laws Speaks Out*, NBC NEWS (Oct. 15, 2021, 4:55 PM), https://www.nbcnews.com/news/asian-america/filipino-american-family-califs-new-police-reform-laws-speaks-rcna3030 [https://perma.cc/H6XJ-L5L4].

[323] Jennifer McRae, *Colorado Becomes Second State to Ban Excited Delirium*, CBS NEWS (Apr. 5, 2024, 4:29 PM), https://www.cbsnews.com/colorado/news/colorado-becomes-second-state-ban-excited-delirium [https://perma.cc/UY7H-KNWC]; Andy Mannix, *Minnesota Gov. Walz Signs Law Banning "Excited Delirium" for Police*, MINN. STAR TRIB. (June 5, 2024, 3:06 PM), https://www.startribune.com/minnesota-gov-walz-signs-law-banning-excited-delirium-for-police/600371297 [https://perma.cc/SDE4-B88X].

[324] While California's ban does not apply to evidentiary proceedings in federal court, a series of state-level transformations in the posture toward excited delirium might inform federal courts' understanding of the term's legitimacy as they perform their gatekeeping function in reviewing claims from expert witnesses.

admissibility of expert witness testimony in pending cases. As more excited delirium cases reach federal courts and decisions are rendered, it is tempting to simply defer to the decisions of past courts rather than substantively engage the evidence for the claim being made when a litigant says that someone died of excited delirium — especially when that death occurs in police custody. While Rule 702 implies that federal courts should already take this approach,[325] there is a trend in the data where courts seemed to rely heavily on previous courts' assessments of the admissibility of expert testimony on excited delirium.[326] Perhaps this will change with the December 2023 amendment to Rule 702. That is an empirical question that future research can answer. In addition to being attentive to the new emphasis on Rule 104(a)'s preponderance standard regarding the admissibility of expert testimony, federal courts should embrace the particular challenges associated with excited delirium, where the evidence base is lacking and where the long histories of race and racism shape who is thought to suffer from it.[327] There is an important opportunity for federal courts to be more thoughtful about the problems associated with creating evidentiary inertia around a damaging concept. This approach can help prevent excited delirium from prematurely sedimenting as a textual, legal fact while the underlying conversation about the legitimacy of its substantive claims continues to evolve. Federal courts need to assess and include new evidence and conversations as they arise rather than relying on precedent based on what might be outdated or disfavored understandings.

Second, in situations where there was a death in police custody ostensibly due to excited delirium and physical or chemical restraints were used, federal courts should be particularly cautious about admitting expert testimony containing unsubstantiated medical claims that frame the cause of death as the decedent's preexisting condition. The two metastudies on excited delirium offered by Gonin et al. and Strömmer et al. found that police use of restraints is highly correlated to determinations that someone died of excited delirium.[328] Without displacing the factfinding duties of a jury or the ability of lawyers to present evidence at trial, federal judges should use their gatekeeping responsibilities to prevent questionable medical diagnoses from obscuring obvious instances of police use of force. Whether that force is excessive, unlawful, or unjustified is a separate question. However, as a matter concerning the admissibility of evidence, federal judges should be skeptical of claims that someone died in police custody due to a mental health condition when that person was subject to force and restraint by the police.

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[325] *See* FED. R. EVID. 702 (requiring that "the *proponent* [of expert testimony] demonstrate[] to the court that," among other considerations, such testimony is likely "based on sufficient facts or data" and is "the product of reliable principles and methods" (emphasis added)).

[326] *See supra* section III.B.3, pp. 1538–42.

[327] *See supra* notes 94–97 and accompanying text.

[328] *See* Gonin et al., *supra* note 112, at 561; Strömmer et al., *supra* note 116, at 684.

Lastly, as legislators and other public officials begin to address excited delirium akin to what has recently occurred in California, attention needs to be paid not only to terms such as excited delirium but also to the underlying dynamic of how certain medical diagnoses can be used to deflect claims of excessive force against police. While the new California law banning excited delirium as a diagnosis or an official cause of death is a step in the right direction, it may not have the impact that it intends. Section 1156.5(a) of the California Evidence Code states that "[e]vidence that a person suffered or experienced excited delirium shall not be admitted in any civil action,"[329] whereas section 1156.5(c) defines excited delirium[330] and notes that the term (for the purpose of the law) "also includes excited delirium syndrome, . . . hyperactive delirium, agitated delirium, and exhaustive mania."[331] Moreover, the new law adds to the California Health and Safety Code by stating that, pursuant to the new evidentiary rules, "evidence that a person suffered or experienced excited delirium is inadmissible in any civil action."[332] However, the Health and Safety Code includes the following instructions:

> A party or witness may describe the factual circumstances surrounding the case, including a person's demeanor, conduct, and physical and mental condition at issue, including, but not limited to, a person's state of agitation, excitability, paranoia, extreme aggression, physical violence, and apparent immunity to pain, but shall not describe or diagnose such demeanor, conduct, or condition by use of the term excited delirium, or attribute such demeanor, conduct, or physical and mental condition to that term.[333]

California's new law prohibits the term "excited delirium" and a few related words but does little to address the problematic idea that the sudden onset of a psychiatric disease can lead to spontaneous death. This may allow police and medical professionals to develop new terms that are not prohibited while maintaining the core function of a troublesome medical concept. For example, during the trial of the officers implicated in the killing of George Floyd, the Minneapolis Police Department was heavily criticized for training police officers on excited delirium — a diagnosis that one officer used to describe Floyd's

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329 CAL. EVID. CODE § 1156.5(a) (West 2024).

330 *See id.* § 1156.5(c) ("For the purposes of this section, 'excited delirium' means a term used to describe a person's state of agitation, excitability, paranoia, extreme aggression, physical violence, and apparent immunity to pain that is not listed in the most current version of the Diagnostic and Statistical Manual of Mental Disorders, or for which the court finds there is insufficient scientific evidence or diagnostic criteria to be recognized as a medical condition.").

331 *Id.*

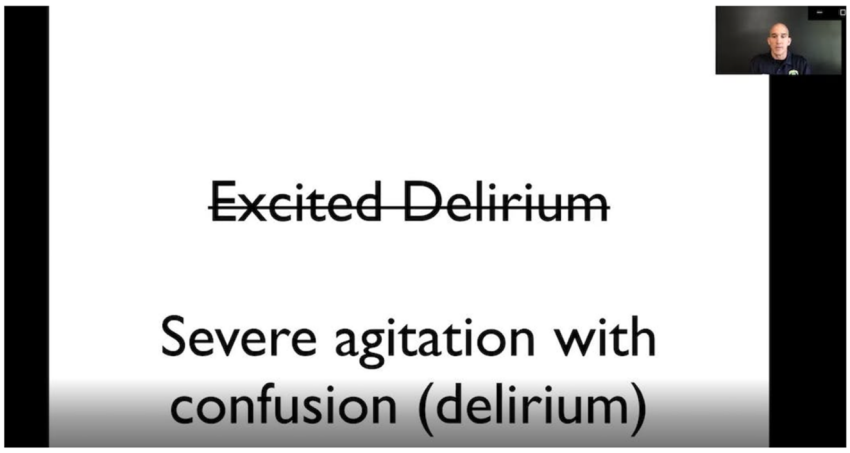
332 CAL. HEALTH & SAFETY CODE § 24403 (West 2024).

333 *Id.*

behavior while he was holding him down.[334] Shortly after the trial, police spokesman Garrett Parten said that the department "no longer uses the term excited delirium" and that it followed the guidance of the American Medical Association.[335] Parten also said that "[t]he most recent fall 2021 training delivered to all department members by the physician, did not include the term excited delirium."[336]

However, a video of this training obtained through a public records request made by journalists at *The Minnesota Star Tribune* tells a different story. A PowerPoint from a presentation by Dr. Paul Nystrom, an emergency physician at Hennepin Healthcare in Minneapolis,[337] shows a slide with the words "Excited Delirium" crossed out and replaced with "Severe agitation with confusion (delirium)."[338] Nystrom is reported as believing that "the terminology 'excited delirium' has become 'triggering' for the public. . . . 'That being said, the condition exists[.] . . . We all agree the entity exists.'"[339]

Figure 2: Screenshot of PowerPoint Presentation Used During Fall 2021 Police Training by Dr. Paul Nystrom[340]



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334 Andy Mannix & Rochelle Olson, *Testimony: Minneapolis Police Trained to Ignore City's Civil Rights Report on Ketamine and Excited Delirium*, MINN. STAR TRIB. (Jan. 31, 2022, 2:09 PM), https://www.startribune.com/minneapolis-police-trained-ignore-citys-civil-rights-report-on-ketamine-excited-delirium-inspector/600141547 [https://perma.cc/F6DU-CPUN].

335 *Id.*

336 *Id.*

337 Andy Mannix, *Minneapolis Police Department Still Teaching Controversial "Excited Delirium" Syndrome — Despite Claiming It Had Stopped*, MINN. STAR TRIB. (Feb. 12, 2022, 8:52 PM), https://www.startribune.com/minneapolis-police-still-teaching-excited-delirium-syndrome-despite-claiming-it-stopped/600146112 [https://perma.cc/MRQ5-JC2S].

338 *Id.*

339 *Id.*

340 *Id.*

This situation in Minneapolis demonstrates the deep commitment that some medical professionals and police departments have to maintaining access to excited delirium as a diagnosis that explains what they believe to be their professional observations. Moreover, it highlights how medical professionals and law enforcement can collaborate to evade policies meant to protect the public in order to continue suggesting that the sudden onset of a psychiatric condition, called whatever is necessary to comply with existing policy and procedures, can lead to sudden deaths in police custody.

By enumerating specific terms that cannot be used and allowing people to "describe the factual circumstances surrounding the case,"[341] it is not clear whether the new changes to the California Code of Evidence or Health and Safety Code would prevent a Minneapolis-type pivot to more descriptive terms such as "severe agitation with confusion (delirium)" from entering a civil proceeding or being used as an official cause of death.[342] We already see evidence that things are leaning in this direction from a system update to the San Diego Fire-Rescue Department, Emergency Medical Services (EMS) Division, released days after the new California law went into effect:

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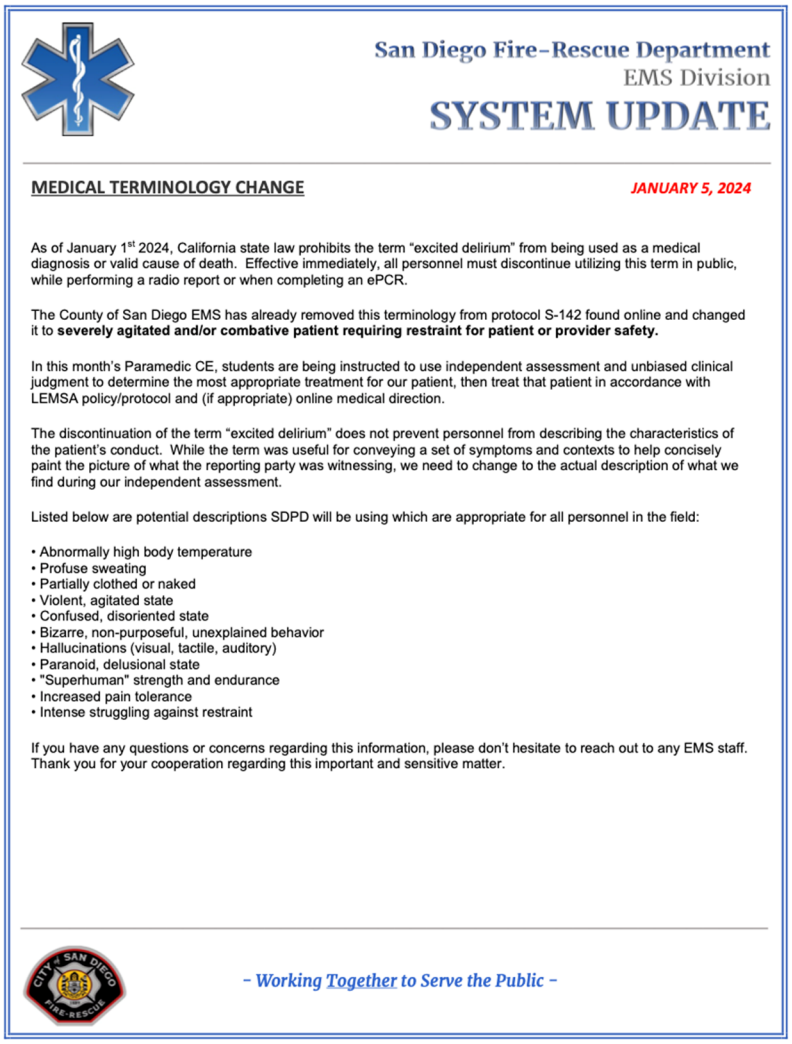
[341] CAL. HEALTH & SAFETY CODE § 24403 (West 2024).
[342] *See* Mannix, *supra* note 337.

Figure 3: San Diego Fire-Rescue Department, Emergency Medical Services (EMS) Division January 5, 2024 System Update[343]



San Diego Fire–Rescue Department
EMS Division
SYSTEM UPDATE

MEDICAL TERMINOLOGY CHANGE — JANUARY 5, 2024

As of January 1st 2024, California state law prohibits the term "excited delirium" from being used as a medical diagnosis or valid cause of death. Effective immediately, all personnel must discontinue utilizing this term in public, while performing a radio report or when completing an ePCR.

The County of San Diego EMS has already removed this terminology from protocol S-142 found online and changed it to **severely agitated and/or combative patient requiring restraint for patient or provider safety.**

In this month's Paramedic CE, students are being instructed to use independent assessment and unbiased clinical judgment to determine the most appropriate treatment for our patient, then treat that patient in accordance with LEMSA policy/protocol and (if appropriate) online medical direction.

The discontinuation of the term "excited delirium" does not prevent personnel from describing the characteristics of the patient's conduct. While the term was useful for conveying a set of symptoms and contexts to help concisely paint the picture of what the reporting party was witnessing, we need to change to the actual description of what we find during our independent assessment.

Listed below are potential descriptions SDPD will be using which are appropriate for all personnel in the field:

- Abnormally high body temperature
- Profuse sweating
- Partially clothed or naked
- Violent, agitated state
- Confused, disoriented state
- Bizarre, non-purposeful, unexplained behavior
- Hallucinations (visual, tactile, auditory)
- Paranoid, delusional state
- "Superhuman" strength and endurance
- Increased pain tolerance
- Intense struggling against restraint

If you have any questions or concerns regarding this information, please don't hesitate to reach out to any EMS staff. Thank you for your cooperation regarding this important and sensitive matter.

– Working Together to Serve the Public –

Statements such as "[t]he discontinuation of the term 'excited delirium' does not prevent personnel from describing the characteristics of the patient's conduct" suggest that the *medical concept* of spontaneous death from psychiatric crisis remains available as a lawful explanation for deaths in custody.[344]

Thus, as a third policy recommendation, efforts to limit the questionable use of excited delirium must focus on addressing underlying

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[343] System Update, EMS Division, San Diego Fire-Rescue Department, Medical Terminology Change (Jan. 5, 2024).

[344] *Id.*

dynamics and not only specific terms. The problem at hand is not simply the phrase excited delirium, but how medical language might deflect attention away from uses of force that predictably lead to death and limit police accountability. This is not a new problem; science and medicine have long histories as instruments that can complicate and justify various forms of subordination and wrongly shield state and private actors from being held responsible for their actions.[345] As legislation and public policy turn their attention to excited delirium and possibly other questionable uses of medical diagnoses, this history should be taken into consideration as we develop ways to ensure that medicine is used appropriately in legal forums.

CONCLUSION

Federal Rule of Evidence 702 is a product of tensions between law, science, and medicine that have existed for hundreds of years.[346] How do courts know that the witness being offered to provide expert testimony on a scientific or medical issue is credible, what issues should a jury be allowed to sort out on its own, and which medical and scientific claims are so beyond the pale that they should not enter a legal proceeding? These are not easy questions to answer, and the existing guiding standards offered by the Federal Rules of Evidence provide an important framework from which federal judges can begin to assess the merits of these claims.

This Article, however, has shown that the Federal Rules of Evidence are not enough to protect the public from discredited scientific or medical theories entering the courtroom. Federal judges have, for the most part, welcomed expert witness testimony on excited delirium with little engagement with (1) the concept that a mysterious psychiatric condition

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345 *See, e.g.*, METZL, *supra* note 95, at xiv (discussing psychiatrists who "described schizophrenia as a 'protest psychosis' whereby [B]lack men developed 'hostile and aggressive feelings' and 'delusional anti-whiteness' after listening to the words of Malcolm X, joining the Black Muslims, or aligning with groups that preached militant resistance to white society"); WASHINGTON, *supra* note 92, at 15–16 (discussing the dismissal of Black patients by physicians as "noncompliant" and incapable of being "trusted to follow medical advice or even to act intelligently in their own best medical interests," which "hampered [the] physicians' ability to care for [B]lack patients or even to see them as worthy of the same excellent care rendered to others"); ROBERTS, *supra* note 93, at x ("Defining the political system of race in biological terms has been a constant feature of U.S. society for centuries . . . .").

346 For a discussion of various issues regarding forensic science and expert witness testimony beyond excited delirium, see generally Sophia Kovatch et al., *Is It Forensics or Is It Junk Science?*, PROPUBLICA (Jan. 31, 2023, 5:00 AM), https://www.propublica.org/article/understanding-junk-science-forensics-criminal-justice [https://perma.cc/KM6C-SGN6] (on the proliferation of junk science in the criminal justice system); Valena E. Beety & Jennifer D. Oliva, *Evidence on Fire*, 97 N.C. L. REV. 483 (2019) (on inconsistent application of admissibility standards in fire science in civil versus criminal cases); Peter J. Neufeld, *The (Near) Irrelevance of* Daubert *to Criminal Justice and Some Suggestions for Reform*, 95 AM. J. PUB. HEALTH S107 (2005) (discussing how *Daubert* is rarely raised by defendants in criminal prosecution due to court-appointed attorneys' lack of resources).

can suddenly manifest in death, (2) the fact that there is little scientific evidence to show how this happens, and (3) the reality that many medical professionals harbor deep skepticism about these claims. This rather incurious approach by federal judges suggests that, in addition to legislative and policy interventions akin to what occurred in California, more resources and training on scientific literacy need to be devoted to the federal bench. For example, considerable resources have been made available to federal judges over the past several years to help them understand the opportunities and challenges associated with DNA evidence as this technology has come to impact different types of litigation.[347] Similar trainings on deaths in police custody, how they occur, the use (and overuse) of restraints, and alternative practices in de-escalation might help judges develop a more nuanced posture toward questionable claims that people can simply die on their own in police custody because of mental agitation. This and other efforts might help the federal bench embrace the gatekeeping function that the Federal Rules of Evidence asks of it.

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[347] *See* NAT'L RSCH. COUNCIL, *supra* note 51, at 100–01 (describing courts as being "able to subject DNA evidence to rigorous evaluation" due to "extensive basic research, followed by applied research" from respected scientific institutions).