

**PAPER****JURISPRUDENCE**

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## Forensic Identification Science Evidence Since *Daubert*: Part II—Judicial Reasoning in Decisions to Exclude Forensic Identification Evidence on Grounds of Reliability

**ABSTRACT:** Many studies regarding the legal status of forensic science have relied on the U.S. Supreme Court's mandate in *Daubert v. Merrell Dow Pharmaceuticals Inc.*, and its progeny in order to make subsequent recommendations or rebuttals. This paper focuses on a more pragmatic approach to analyzing forensic science's immediate deficiencies by considering a qualitative analysis of actual judicial reasoning where forensic identification evidence has been excluded on reliability grounds since the *Daubert* precedent. Reliance on general acceptance is becoming insufficient as proof of the admissibility of forensic evidence. The citation of unfounded statistics, error rates and certainties, a failure to document the analytical process or follow standardized procedures, and the existence of observe bias represent some of the concerns that have led to the exclusion or limitation of forensic identification evidence. Analysis of these reasons may serve to refocus forensic practitioners' testimony, resources, and research toward rectifying shortfalls in these areas.

**KEYWORDS:** forensic science, identification, odontology, toolmark, firearms, handwriting, fingerprint, *Daubert*, reliability, law, evidence

The majority of publications commenting on judicial trends toward the post-*Daubert* analysis of forensic science evidence have focused on qualitative analyses of admissibility decisions that *admit* forensic evidence, in an attempt to understand how judges are applying evidentiary standards so as to find such evidence admissible (1–3). Such research is invariably aimed as a critique of the judiciary for failing to apply *Daubert* (4), *Kumho* (5), or other evidence standards properly and thus bears little in terms of practical value for the forensic practitioner who is concerned with avoiding the possibility of exclusion of their evidence. Even the elucidation in the *Daubert* decision, suggesting the nonexclusive factors of error rate, peer review and publication, testing, existence of standards, and general acceptance, tells us little about what the threshold for each of these might be. By undertaking an analysis of the reasons judges cite for *excluding* evidence, it is proposed that one can more clearly envision the forms of evidence that are failing to make it through the judicial filter. Exclusions owing to procedural errors are usually beyond the control of the expert witness. Similarly, there is little that the forensic expert witness can do if the judge declares his or her evidence irrelevant to the proceedings or if they fail to meet the definition of “expert” by virtue of their lack of qualifications or experience. Failure to meet the reliability threshold can only be attributable to a failure on the part of practitioners and researchers in the field. This paper seeks to clarify the

reasons why judges are excluding forensic identification evidence testimony on grounds of reliability.

### Method

Part one of this study reviewed the results of 548 cases where a challenge was raised to the admission of forensic identification science evidence (6). For the 81 cases where forensic identification evidence was excluded or limited, reasons for exclusion or limitation were coded as procedural (P), insufficient qualification of the witness (Q), insufficient relevancy of the offered testimony (R), concerns with the scope of the expert's testimony (W), concerns with the methodology used by the expert (M), or concerns regarding the scientific basis of the analytical technique (S). The combination of the latter three categories (W, M, S) represents concerns characterized under the reliability requirement for expert testimony as per Rule 702 of the Federal Rules of Evidence.

Further qualitative analysis of the factors contributing to unfavorable admissibility decisions based on the reliability of the discipline was then undertaken in an attempt to provide the forensic identification science disciplines with useful data regarding which aspects of the forensic identification science disciplines are failing to meet the courts' reliability thresholds.

### Results

Table 1 outlines the relative proportions of cases in each of the four main areas of forensic identification science that have been subject to exclusion owing to reliability reasons. Reliability has been cited as contributing to the exclusion of expert evidence in

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TABLE 1—Judicial reasoning for exclusion of forensic identification evidence.

Reasons for Exclusion	All Cases		Firearm/Toolmark		Fingerprint		Odontology		Document Examination		
	N	%	N	%	N	%	N	%	N	%	N
Reliability	45	57.0	17	47.2	7	58.3	6	100.0	14	56.0	
Other	28	35.4	17	47.2	5	41.7	0	0.0	7	28.0	
Reliability and other	6	7.6	2	5.6	0	0.0	0	0.0	4	16.0	
Unknown	2	2.5	1		0		0		1		
Total excluded	81		37		12		6		26		

the majority of cases in all disciplines. From examination of the 81 cases where forensic identification science was excluded, 50 of these cited a reason characterized as one of “reliability.” It is not the intention of this article to summarize each of these opinions; rather, it will attempt to characterize a number of common factors relating to reliability issues that have led to the exclusion of the proffered testimony. General advice regarding forensic identification science testimony, considering the factors distilled from these 50 opinions, is summarized in Table 2.

#### Reliability Factors Relating to the Exclusion of Expert Witness Testimony

*Unfounded Statistics*—A reason often cited in exclusions owing to reliability was a failure to provide statistical information obtained via credible, scientific sources. In *People v. Ballard*, the appellate court found that the pronouncement of the expert that she was “99% certain” that the defendant’s fingerprint was found in a stolen car “had no demonstrated basis in an established scientific discipline and rested solely upon [the expert’s] personal opinion” (7). Failure of counsel to object to this statement constituted ineffective assistance of counsel, and the appellate court ordered a new trial.

TABLE 2—Avoiding exclusion of forensic identification evidence.

1. Provide sufficient references and resources in order to allow the trial judge to make an accurate assessment regarding the admissibility of the proffered evidence
2. Evidence of “general acceptance” by either the courts or the forensic community does not act as a substitute for the demonstration of reliability
3. Statistics should only be used to reinforce conclusions where they have been properly generated by recognized scientific methods
4. Conclusions to degrees of “absolute certainty” and “to the exclusion of all others” are not derived scientifically and do not represent realistic inferences
5. Ways to minimize observer bias should be employed when conducting analysis of the identification evidence in the laboratory
6. Subjective conclusions are acceptable, provided they are derived using objective standards
7. Proficiency testing that does not replicate day-to-day work, or “real-life” situations, does not carry much weight toward the overall reliability of the discipline or the expert
8. Ad-hoc experiments that fail to meet basic scientific standards, or fail to replicate the conditions of the case, are not useful to the court
9. The expert should adhere to standard practices used within their discipline and document the procedure and findings at the time of analysis
10. Experts should have a sound understanding of the methods and principles involved in conducting a forensic identification analysis, in order to be able to explain them to the court
11. Identification experts should only offer expertise in areas concerning identification, unless they have had training or experience in other forms of forensic analysis

In *United States v. Rutherford*, the defendant challenged the conclusion of the witness that he was the author of a signature or other writing on a document (8). The court wrote:

While the evidence adduced at the *Daubert/Kumho* hearing established that [the witness] meets the minimum requirements under Rule 702 to qualify as a non-scientific witness, there was no evidence adduced to support the nine-level scale of probabilities adopted by the American Board of Forensic Document Examiners (ABFDE) for conclusions as to handwriting identification. Accordingly, the Court shall preclude [the witness] from testifying to the degree of probability, confidence, or certainty underlying his proffered opinions.

In other handwriting cases, the court has not denied the witness a chance to demonstrate his evidence in court, but limited the testimony to “...identifying and explaining the similarities and dissimilarities between the known exemplars and the questioned documents” (8). Additionally, some courts have considered restricting the testimony of forensic document examiners as to their degree of certainty in determining the genuineness of a signature, in particular restricting any reference to the nine-level ABFDE scale (9–11).

In *Ege v. Yukins*, the evidentiary opinion describing the bite mark evidence came from a forensic odontologist who characterized the match of a mark on the victim’s cheek with the petitioner’s dentition in terms of an overwhelming mathematical probability (12). The expert testified that in the Detroit Metropolitan Area, consisting of approximately three and a half million people, nobody else would match the bite mark found on the victim but offered no verifiable data to support this claim. The judge viewed this with skepticism and noted that “forensic expert testimony regarding identification of the defendant based upon a statistical analysis requires a proper foundation.”

In another odontology case, *State v. Fortin*, the judge took the unusual step of requiring the production of a reliable database as an essential qualifier for the expert testimony of the forensic odontologist testifying as to the relatedness of two separate crimes (13). This was deemed necessary in order to support his claim (and that of the pathologist) that “from the thousands of cases they have reviewed in the course of their professional experience, they had never before seen such a combination of bite marks to the chin or breast on a sexual assault victim.”

*Failure to Address Reliability in the Context of the Case at Bar*—A failure to provide evidence that the method used for analysis in the particular case in issue had been subject to any form of reliability testing also proved fatal to a number of challenges. In a most extreme example, the prosecution failed to present any evidence, or even produce the proffered expert witness, for examination by the court for the *Daubert* hearing in *Government of the*

*Virgin Islands v. Austin Jacobs* (14). The territorial court subsequently excluded the testimony from appearing at trial, because it did not survive the threshold inquiry as required under *Daubert* and Rule 702. The government's presumption that the court would accept fingerprint analysis as a "recognized means of identification after more than one hundred years of use," without specifically addressing the reliability clause of the evidence code, proved to be fatal to their evidence.

Instances where proof of the reliability of the identification evidence has not specifically related to the circumstances of the case have proved troublesome. Fingerprint evidence was excluded in both *State of Maryland v. Bryan Rose* (15) and *Commonwealth v. Patterson* (16) following a hearing to determine its admissibility. While the prosecutions tendered proof of the reliability of matching fully inked and rolled prints, they failed to convince the trial judges that the ACE-V methodology used by latent fingerprint examiners had been subject to any reasonable test of scientific validity for matching latent, or partial prints, as were used to identify the defendant in these cases.

In *United States v. Fujii* (17), a case involving comparative analysis of handwritten, "printed" English script by a Japanese defendant, the court found "no need to weigh in on th[e] question...[of] whether handwriting analysis *per se* meets the *Daubert* standards, as its application in this case poses more significant problems." While the court declined to comment on the reliability of handwriting analysis as an entire discipline, it found that the comparison of handprinting (as opposed to cursive handwriting) by a foreign-born and foreign-trained writer had not been subject to any studies in order to demonstrate its reliability.

Similarly, the majority opinion in *Sexton v. State* noted that the evidence adduced in the admissibility hearing "[did] not support [a firearms expert's] capacity to identify cartridges on the basis of magazine marks only" (18). The court concluded that the prosecution had demonstrated that the underlying theory of toolmark examination *could* be reliable, and the State failed to show that the technique used by the examiner in that particular case was valid.

*Failure to Adhere to Recognized Standards*—Experts who fail to adhere to recognized methods and protocols within the field have also found themselves excluded from giving evidence. In *Ramirez v. State*, the judge noted that there was no written authority upholding the expert's particular method of knife-mark analysis (19), and this was later cited as a reason counting toward the exclusion of the toolmark expert's evidence. In *Ege v. Yukins*, the judge noted that the fact that the odontologist had used a non-dental forensic photograph of the possible bite mark, in addition to using models that were made in excess of 9 years after the original wound was inflicted to exclude other suspects, also went against admission of the evidence (12). Likewise, in *Bourne v. Town of Madison*, the court found that the expert's methodology of enlargement of the specimen was "inconsistent with the accepted methodology among forensic document examiners," and his evidence was also excluded (20).

*Inability to Clearly Explain Methodology*—Several experts have also been criticized for not being able to adequately explain their methodology in court. In *State v. Swinton*, the defendant challenged the admissibility of the forensic odontology evidence, which consisted of images of the defendant's teeth superimposed upon photographs of the bite mark made using Adobe Photoshop (21). Because the expert was not familiar with Adobe Photoshop and was using the program for the first time for such a procedure, the expert secured the assistance of a university chemistry professor to

scan these images and create the so-called overlays. This professor was not made available to testify at trial. When pressed in court, the odontologist was unable to explain as to whether the computer processes that were used to create the overlays were accepted in the field of odontology as standard and competent. He was also unable to verify whether proper procedures were followed in connection with the input and output of information; whether Adobe Photoshop was reliable for this sort of forensic application; or whether the equipment was programmed and operated correctly. When asked how the computer actually superimposed the tracing of the biting edges of the defendant's teeth over the photograph, the odontologist was only able to manage "[the professor]... moved them together." Importantly, the court noted that as the Adobe Photoshop program was capable of actually altering photographs "[the] witness must be able to testify, adequately and truthfully, as to exactly what the jury is looking at." The appellate court ruled that the Photoshop overlays were improperly admitted.

*Insufficient Documentation of Analysis*—Experts who fail to tender sufficient documentation of the identification method they have used in the case at bar have also had their evidence excluded. In *State of New Hampshire v. Richard Langill*, the judge found that while ACE-V was a reliable method of analyzing latent fingerprints, a failure to document this analysis, in combination with the possibility of a biased confirmation owing to the lack of a "blind" verification by the second examiner, resulted "in an insufficient basis for the court to find that the principles were reliably applied to the facts of the case" (22) (although this decision was later reversed by the Supreme Court of New Hampshire, citing an unsustainable exercise of discretion by the trial judge in excluding the expert's testimony on this basis). Judge Gertner noted that the lack of good records of the analysis in *United States v. Green* "pointed against admission of the testimony," although though it too was ultimately allowed in this case, with some limitations (23).

In *United States v. Monteiro*, the firearms expert had failed to make any sketches or take photographs of his comparison work, and his notes were scant (24). He had also failed to document the verification of his results by another qualified examiner. The judge granted the defendants' motion to exclude ballistics evidence; however, she also stated that she would permit the expert to testify whether the government could demonstrate that it met the documentation and peer-review requirements.

In *Ramirez v. State*, a forensic examiner attempted to identify a knife that was allegedly used as a murder weapon in 1983 (19). The knife-mark evidence in *Ramirez* was initially deemed admissible in the trial court's *Frye* hearing; however, the Supreme Court of Florida disagreed with this finding. Among the many reasons given for their decision was the fact that the expert had not taken any photographs, prepared notes or a written report delineating the basis for identification, and the Supreme Court subsequently reversed the original verdict and vacated the defendant's sentence.

*Custom Experiments*—Several expert witnesses have conducted their own research, or "experiments," and have then attempted to use these results in court to verify their hypotheses. Such practices should be adopted with caution. In *Smith v. State*, the trial court excluded the testimony on grounds that the defense had failed to establish a proper foundation, demonstrating that the experiments conducted by the expert witness were conducted so in a scientific manner, using comparable circumstances (25). Similarly, in *Estate of Kenneth Griffin v. Hickson*, the plaintiffs relied on custom-designed expert research in what was termed the "Holmesburg experiments" (26). Based on the results of these experiments, the

plaintiffs averred that the weapons used by agents Hickson and Martinez were capable of depositing the gun shot residue particles on the defendant. However, the judge noted that “certain critical aspects of the Holmesburg experiments must be introduced via expert testimony if the tests are to be deemed admissible.” The plaintiffs failed to present such testimony, and therefore the evidence was not permitted.

*Lack of Objective Standards*—The fact that the process of forensic comparison itself is a subjective one has not necessarily resulted in exclusion of the evidence when there exist objective standards by which to relate the findings. Lack of such objective standards, however, has proven fatal to admissibility in several cases. As one example, again in *Ramirez v. State*, the judge wrote in his reasons for exclusion of the proffered testimony that the expert’s method, involving comparisons of striation marks on cartilage, was not governed by objective scientific standards and that this strengthened the case for exclusion of his evidence (19). The trial judge in *United States v. Monteiro* also expressed that his greatest concern in the firearms examiner’s methodology was the fact that the standards for determining a match were subjective, without any formal guidance in how an examiner was to reach their conclusions (24).

*Existence of Observer Bias*—The existence of observer bias has been noted as strengthening the case for exclusion in several challenges to the admission of forensic evidence, including firearms and toolmark testimony in *United States v. Green* (23) and fingerprint testimony in *State v. Langill* (22). Such bias exists when forensic examiners fail to undergo sufficient “blinding” as to the results of other forensic tests or the circumstances of the case. Verification of the results by a second examiner is also subject to such bias if he or she is aware of the first examiner’s results prior to undertaking their own analysis. This phenomenon appears to be prevalent in the majority of forensic disciplines and appears to have only recently become a point of contention in courts of law.

*Unrealistic Proficiency Testing*—In addressing practitioner reliability, numerous disciplines undertake proficiency testing and present these results to the court alongside their testimony. Recently, this practice has come under closer scrutiny by the judiciary. In *Maryland v. Rose*, it was noted that proficiency tests were undertaken and passed; however, these were criticized by the trial judge as not being representative of real-world conditions (15). Therefore, they did not carry as much weight toward admitting the fingerprint evidence as they might have. The judge in *United States v. Llera Plaza* also noted that the fingerprint examiner proficiency tests referred to by the prosecution were less demanding than they should have been (27). Other criticisms of external proficiency tests have been described in handwriting cases (28), particularly regarding their use to generate “error rates” for practitioners in the discipline.

*Implausible Error Rates and Certainties*—Instances where the expert has attempted to testify to reliability of their technique by referencing extremely small error rates or extremely high certainties have also proved fatal to the admissibility of the evidence in a number of cases. Judges are finding that witnesses attempting to make an “absolute” identification of the defendant, identifications “to the exclusion of all others,” or claiming extremely low, or even nonexistent error rates, are not relying on credible scientific reasoning. The expert’s testimony in *Maryland v. Rose* that his error rate associated with the ACE-V methodology was “zero” failed to impress the trial judge, who found this neither credible nor

persuasive and thus was used as part of her reasoning for excluding the proffered fingerprint evidence (15).

In *Ramirez v. State*, testimony that the knife-mark identification technique used “was infallible” and that “it was impossible to make a false positive identification” using this particular technique also went against admission of the evidence. The judge noted that such a statement could not be made where there were no data on error rate available to verify such a claim (19).

In *United States v. Diaz*, the trial judge found that while the theory of firearm identification was reliable under *Daubert*, he found very little support for the notion that identifications could be made to the exclusion of all other firearms in the world (29). Examiners who testified in this case were only permitted to declare that a match had been made to a “reasonable degree of certainty in the ballistics field.” In *United States v. Monteiro*, the judge also only permitted the witness to testify that a cartridge case matched a particular firearm to a “reasonable degree of ballistic certainty” (24). This decision was based on his finding that no examiner should testify to an absolute degree of statistical certainty, as their opinion regarding an identification is ultimately a subjective one.

Similar examples abound. The trial judge in *United States v. Green* allowed a firearms and toolmark examiner to testify as to his observations; however, she did not allow him to conclude that “the match he found by dint of the specific methodology he used permits ‘the exclusion of all other guns’ as the source of the shell casings” (23). Similarly, in *Wolf v. Ramsey*, the court concluded that “while the expert can properly assist the trier of fact by pointing out marked differences and unusual similarities between Mrs. [...]’s writing and the Ransom Note, he has not demonstrated a methodology whereby he can draw a conclusion, to an absolute certainty, that a given writer wrote the note” (30).

*Insufficient Relationship of Expertise to Facts of Case*—An example of an exclusion occurring owing to a mismatch between the expertise of the witness and the circumstances of the case occurred in *People v. Wynne* (31). The trial judge excluded the testimony of the firearms expert not because he failed to be qualified as an expert, but because he “failed to lay a foundation to show that this expertise qualified him to make the relevant assessment from the coroner’s report” (31). In this case, it appears that the expert attempted to testify while having not actually performed an examination of the material evidence himself. While this may commonly occur in practices such as forensic pathology, it appears that this methodology has not been well received in forensic identification testimony.

Numerous instances where firearms identification experts have been excluded on similar grounds exist. Several courts have held that their testimony related to distance of firing (32), gun design (33), or whether a gun had been dropped or thrown (34) does not relate to their core area of “forensic identification” expertise.

*Reliance on General Acceptance*—While many cases have relied upon “general acceptance” or “acceptance by the courts” as reasoning for the admissibility of forensic evidence, judges appear to be realizing that such reasoning does not sufficiently address the reliability threshold. The trial judge in *United States v. Green* (23) felt that the reliance on long-standing use of ballistics evidence in the courts runs the risk of “grandfathering in irrationality.” The judge also stated that this reasoning ignores the mandate of *Daubert*, particularly when courts rely on pre-*Daubert* acceptance of a given scientific technique (23). Other courts have also found that “acceptance by the courts” does not qualify as “general acceptance” under *Daubert*. The U.S. District Court (E.D. Kentucky) in

*United States v. Sullivan* held that “the historical acceptance of fingerprint evidence in courts does not qualify as general acceptance for the purposes of *Daubert*...” and that “[t]he reliability of ACE-V is not demonstrated by its use in prior court cases” (35). The district court in *United States v. Saelee*, in excluding the proffered handwriting evidence, also noted that “...the fact that [handwriting] evidence had been admitted in the past does not mean that it should be generally accepted now, after *Daubert* and *Kumho*” (36).

## Conclusion

Part I of this study demonstrated that a failure to demonstrate reliability accounted for the majority of exclusions in the forensic identification science discipline. We have discussed the reasons encountered for these decisions, providing some insight into what issues the judiciary are concerned with when assessing the reliability of expert testimony. Several key themes have emerged in the analysis of 79 instances where the admissibility of a forensic identification science has been challenged, from which practical advice can be distilled. Some of these problems can be easily avoided by the practitioner maintaining sufficient attention to detail during casework and undertaking specific expert witness training. Addressing other issues may involve longer-term solutions, including the application of properly founded scientific research into practitioner performance, methodology, or underlying scientific basis in particular disciplines. It should be noted that none of the issues discussed in this paper can be successfully addressed by the legal community. It is up to the practitioners and researchers in our discipline to ensure that forensic science is able to provide information of the standard that the judiciary desires and that defendants are entitled.

## References

- Saks MJ. The legal and scientific evaluation of forensic science. *Seton Hall L Rev* 2002;33:1167–88.
- La Morte TM. Sleeping gatekeepers: *United States v. Llera Plaza* and the unreliability of forensic fingerprinting evidence under *Daubert* comment. *Alb LJ Sci & Tech* 2003;14:171–214.
- Cole SA. Grandfathering evidence: fingerprint admissibility rulings from Jennings to Llera Plaza and back again. *Am Crim L Rev* 2004;41:1189–276.
- Daubert v. Merrell Dow Pharmaceuticals Inc.*, 509 U.S. 579, 113 S.Ct. 2786, 125 L.Ed.2d 469 (1993).
- Kumho Tire Co. Ltd. v. Carmichael*, 526 US 137 (1999).
- Page M, Taylor J, Blenkin M. Forensic identification science evidence since *Daubert*: Part I—a quantitative analysis of the exclusion of forensic identification science evidence. *J Forensic Sci* 2011; e-pub ahead of print. DOI: 10.1111/j.1556-4029.2011.01777.x.
- People v. Ballard*, No. 225560 Macomb Cir. Court LC No. 98-001651-FC (Mich. Feb 28, 2003) (Unreported), [http://www.nlada.org/Defender/forensics/for\\_lib/Documents/1128574459.91/CtofApp.pdf](http://www.nlada.org/Defender/forensics/for_lib/Documents/1128574459.91/CtofApp.pdf) (accessed November 9, 2009).
- United States v. Rutherford*, 104 F.Supp.2d 1190 (D.Neb. 2000).
- United States v. Van Wyk*, 83 F.Supp.2d 515 (D.N.J. 2000).
- United States v. Hines*, 55 F.Supp.2d 62 (D.Mass. 1999).
- United States v. Santillan*, 1999 WL 1201765 (N.D.Cal. 1999) (Unreported), <http://www.westlaw.com> (November 12, 2009).
- Ege v. Yukins*, 2005 U.S. Dist. LEXIS 15953 (Unreported), <http://lexisnexis.com> (accessed November 12, 2009).
- State v. Fortin*, 2007 N.J. LEXIS 333 (Unreported), <http://lexisnexis.com> (accessed November 10, 2009).
- Government of the Virgin Islands v. Austin Jacobs*, 53 Fed.Appx. 651 C.A.3 (Virgin Islands), 2002 (Unreported), [http://www.vid.uscourts.gov/dcopinion/02cr1135\\_jacobs\\_opn.pdf](http://www.vid.uscourts.gov/dcopinion/02cr1135_jacobs_opn.pdf) (October 21, 2009).
- State of Maryland v. Bryan Rose*, No. K06-0545 (Md., Baltimore Co. Cir. Oct. 19, 2007) (Memorandum Opinion), <http://www.clpex.com/Information/STATEOFMARYLAND-v-BryanRose.doc> (accessed January 3, 2010).
- Commonwealth v. Patterson*, 445 Mass 626; 840 N.E. 2d.12; (Mass 2005).
- United States v. Fujii*, 152 F.Supp. 2d 939 (N.D.Ill. 2000).
- Sexton v. State*, 93 S.W.3d 96 (Tex. Crim. App., 2002).
- Ramirez v. State*, 819 So.2d 836 (Fla., 2001).
- Bourne v. Town of Madison*, 2007 U.S. Dist. LEXIS 34537 (Unreported), <http://lexisnexis.com> (accessed November 8, 2009).
- State v. Swinton*, 2004 Conn. LEXIS 190 (Unreported), <http://lexisnexis.com> (accessed November 10, 2009).
- State of New Hampshire v. Richard Langill*, No. 2007-300 (Sup. Ct. Rockingham 13 Feb 2008) (Unreported), [http://www.clpex.com/Information/NHvLANGILL/NH\\_Supreme\\_Court\\_Decision-4Apr08.pdf](http://www.clpex.com/Information/NHvLANGILL/NH_Supreme_Court_Decision-4Apr08.pdf) (accessed February 10, 2010).
- United States v. Green*, 405 F.Supp.2d 104 (D.Mass., 2005).
- United States v. Monteiro*, 407 F.Supp.2d 351 (D.Mass., 2006).
- Smith v. State*, 1997 Ark. LEXIS 527 (Unreported), <http://lexisnexis.com> (accessed November 28, 2009).
- Estate of Kenneth Griffin v. Hickson*, 2002 U.S. Dist LEXIS 8568 (Unreported), <http://lexisnexis.com> (accessed November 24, 2009).
- United States v. Llera Plaza*, 179 F.Supp. 492 (E.D. Pa. 2002).
- United States v. Prime*, 220 F.Supp.2d 1203 (W.D.Wash. 2002).
- United States v. Diaz*, 2007 U.S. Dist. LEXIS 13152 (Unreported), <http://lexisnexis.com> (accessed November 14, 2009).
- Wolf v. Ramsey*, 2003 U.S. Dist. LEXIS 10249 (Unreported), <http://lexisnexis.com> (accessed December 2, 2009).
- People v. Wynne*, 1999 Mich. App. LEXIS 2855 (Unreported), <http://lexisnexis.com> (accessed November 8, 2009).
- State v. Lopez*, 1996 Neb. LEXIS 51 (Unreported), <http://lexisnexis.com> (accessed November 10, 2009).
- Barrett v. International Armaments, Inc.*, 1999 U.S. Dist. LEXIS 4708 (Unreported) Available from LexisNexis: <http://lexisnexis.com> (accessed December 1, 2009).
- United States v. Fisher*, 2002 U.S. Dist. LEXIS 22385 (Unreported), <http://lexisnexis.com> (accessed November 17, 2009).
- United States v. Sullivan*, 246 F.Supp.2d 702, 703 (E.D.Ky. 2003).
- United States v. Saelee*, 162 F.Supp.2d 1097 (D.Alaska 2001).

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