

7.19 Scientific Evidence

(1) Subject to the requirements identified in Guide to New York Evidence rule 4.01 (Relevant Evidence); rule 4.07 (Exclusion of Relevant Evidence); rule 7.01 (Opinion of Expert Witness), as limited by rule 8.02 (Admissibility Limited by Confrontation Clause); and subject to the establishment by foundation evidence of the authenticity of the materials and propriety of the procedure used, the following scientific evidence has been held admissible:

(a) Ballistics evidence used to show that a firearm is operable or that a bullet was fired from a particular firearm.

(b) Blood type evidence used to identify the type of blood a particular individual carries and to determine whether the blood of one person matches that of another.

(c) Fingerprint and palmprint evidence.

(d) The results of a medical or diagnostic procedure or test as provided in CPLR 4532-a.

(e) Photometric testimony, limited to measurements of footprints.

(f) Radar speedometer results.

(2) Scientific evidence that has been held admissible by the Court of Appeals but whose reliability has subsequently been questioned includes:

(a) Bite mark evidence as a means of identification.

(b) Comparative hair analysis evidence.

(3) Purported scientific evidence that has been held not admissible includes:

(a) The results of a polygraph examination.

(b) The results of voice spectrographic evidence.

(4) Notwithstanding that evidence of a particular subject has been accepted in a scientific community, the evolving views and opinions in a scientific community may occasionally require a *Frye* hearing with respect to previously accepted scientific evidence. Scientific evidence that has been previously accepted within the relevant scientific community but has since come into question includes: hair comparisons, fire origin, comparative bullet lead analysis, bite mark matching, and bloodstain-pattern analysis. At the same time, evolving views and opinions in the scientific community about a particular subject may justify the admission of such evidence notwithstanding that it has not been previously accepted.

Note

The admissibility of DNA evidence will be the subject of a separate rule.

Subdivision (1) (a) is derived from Court of Appeals decisions. (*See People v Knight*, 72 NY2d 481, 485 [1988] [there are a “variety of scientific methods routinely accepted in our courts for their general reliability, including . . . ballistic evidence”]; *People v Romeo*, 12 NY3d 51, 53 [2009] [“Ballistics evidence . . . indicated that a gun belonging to defendant was the murder weapon”]; *People v Vataj*, 69 NY2d 985, 987 [1987] [“A ballistics test matched a spent bullet recovered from the scene of the crime with a bullet from defendant’s gun”]; *People v Soper*, 243 NY 320, 325 [1926] [“The bullets found in the body of the deceased were fired from a revolver of the same calibre as the revolver which was found . . . (T)wo experts produced by the prosecution testified, in effect, that they found and measured certain marks on the bullets and that these marks corresponded exactly with so-called ‘grooves’ and ‘lands’ in the barrel of the revolver and that these bullets were fired from that particular revolver”].) In 2020, the Court of Appeals noted that the reliability of “comparative bullet lead analysis” (i.e. the comparing by chemical analysis of a bullet at a crime scene with a bullet found in possession of the defendant), while previously accepted by other courts, was presently questionable. (*People v Williams*, 35 NY3d 24, 43 [2020].)

Subdivision (1) (b) is derived from *People v Mountain* (66 NY2d 197, 202-203 [1985]), which held: “The scientific validity and reliability of tests used to identify the type of blood a particular individual carries and to determine whether the blood of one person matches that of another are well recognized in both the medical and legal communities . . . [T]he relative rarity of the assailant’s type of blood relegates arguments as to remoteness to the realm of weight rather than admissibility.” (*But see People v Rogers*, 8 AD3d 888, 891-892 [3d Dept 2004] [in a rape prosecution, a report of the victim’s blood alcohol content was improperly admitted because “the test was initiated by the prosecution and generated by the desire to discover evidence against defendant, the results were testimonial (and admission) of the blood test results without the ability to cross-examine the report’s preparer was a violation of defendant’s rights under the 6th Amendment’s Confrontation Clause”].)

Subdivision (1) (c) is derived from a long line of Court of Appeals decisions recognizing the admissibility of such evidence, as well as statutory law recognition via the required taking of fingerprints and palmprints of those arrested for a crime. (CPL 160.10; *see People v Gates*, 24 NY2d 666, 669 [1969] [“there can be no doubting the almost conclusive force of the fingerprint evidence”]; *but see People v Rawlins*, 10 NY3d 136, 157 [2008] [“fingerprint reports at issue were clearly testimonial because . . . a police detective (prepared the) reports solely for prosecutorial purposes and, most importantly, because they were accusatory and offered to establish defendant’s identity” and were thus inadmissible given that the detective was not a witness subject to cross-examination].)

Subdivision (1) (d) incorporates CPLR 4532-a (“Admissibility of graphic, numerical, symbolic or pictorial representations of medical or diagnostic tests”) as set forth in Guide to New York Evidence rule 9.09.

Subdivision (1) (e) is derived from *People v Bay* (67 NY2d 787, 789 [1986]), which held that the “receipt of the expert photometric testimony, limited to measurements of the footprints, was not an abuse of discretion.”

Subdivision (1) (f) is derived from *People v Magri* (3 NY2d 562, 566 [1958] [“the time has come when we may recognize the general reliability of the radar speedometer (also known as a radar speedometer) as a device for measuring the speed of a moving vehicle, and that it will no longer be necessary to require expert testimony in each case as to the nature, function or scientific principles underlying it”]). (*People v Knight*, 72 NY2d 481, 486 [1988] [“insofar as the underlying scientific principles of moving and stationary radar are the same, evidence derived from either should be admissible without the need for expert testimony”].)

Subdivision (2) (a) on the admissibility of bite mark evidence is derived from *People v Middleton* (54 NY2d 42, 45 [1981]) where the Court held: “The

reliability of bite mark evidence as a means of identification is sufficiently established in the scientific community to make such evidence admissible in a criminal case.” (See *People v Smith*, 63 NY2d 41, 64 [1984] [“no error was committed in permitting the photo-to-photo comparison” of a known bite mark of the defendant on human skin with a bite mark on the skin of the deceased].) In 2020, however, notwithstanding *Middleton* and *Smith*, the Court of Appeals noted that there had been “[r]ecent questioning of previously accepted techniques related to . . . bite mark matching.” (*People v Williams*, 35 NY3d 24, 43 [2020].)

Subdivision (2) (b) is derived from *People v Allweiss* (48 NY2d 40, 49-50 [1979] [comparative hair analysis was properly admitted where “(t)he People’s expert testified that he had microscopically compared the hair samples taken from the defendant’s head with the hair found at the scene of the crime. He stated that the test, like fingerprint analysis, involved comparing a number of characteristics, generally 15 to 20. He conceded that the results would not be as conclusive as fingerprinting, but stated that if a sufficient number of similarities could be found, it could be determined with a reasonable degree of certainty that a hair had come from a certain individual. He said that he was able to do that in this case”]). In 2020, however, notwithstanding *Allweiss*, the Court of Appeals noted that there had been “[r]ecent questioning of previously accepted techniques related to hair comparisons.” (*People v Williams*, 35 NY3d 24, 43 [2020].)

Subdivision (3) (a) is derived from well-established precedent, most recently *People v Shedrick* (66 NY2d 1015, 1018 [1985]), which stated that it was not “reversible error for the court to exclude results of a polygraph examination offered by defendant to indicate his own belief in his innocence. The reliability of the polygraph has not been demonstrated with sufficient certainty to be admissible in this State. (*People v Tarsia*, 50 NY2d 1, 7; *People v Leone*, 25 NY2d 511, 517.)” (*People v Forte*, 279 NY 204 [1938].)

Subdivision (3) (b) is derived *People v Jeter* (80 NY2d 818, 820-821 [1992]), which stated: “We do not agree that the court could properly have determined that voice spectrography is generally accepted as reliable based on the case law and existing literature on the subject. In this instance, there is marked conflict in the judicial and legal authorities as to the reliability of the procedure. New York courts are split on the issue of admissibility. Moreover, while several jurisdictions have held that voice spectrography evidence is sufficiently reliable to be admissible, others have reached just the opposite conclusion. The legal scholarship on the admissibility of voice spectrography is likewise conflicting. We conclude that the trial court lacked a proper basis to admit the voice spectrographic evidence without a preliminary inquiry into reliability” (citations omitted). (*But see People v Tyson*, 209 AD2d 354, 355 [1st Dept 1994] [“It was an abuse of discretion to deny defendant’s request for a reasonable expenditure to test whether a voice on a tape offered in evidence, in which defendant allegedly admitted the crime, was in fact defendant’s . . . A preliminary hearing must then be held to determine the

scientific reliability of the test should the expert conclude that the voice on the tape was not defendant's"].)

Subdivision (4) is derived from *People v Williams* (35 NY3d 24, 43 [2020]), which stated:

“[O]ur *Frye* jurisprudence accounts for the fact that evolving views and opinions in a scientific community may occasionally require the scrutiny of a *Frye* hearing with respect to a familiar technique. There is no absolute rule as to when a *Frye* hearing should or should not be granted, and courts should be guided by the current state of scientific knowledge and opinion in making such determinations.

“Indeed, admissibility even after a finding of general acceptance through a *Frye* hearing is not always automatic. Recent questioning of previously accepted techniques related to hair comparisons, fire origin, comparative bullet lead analysis, bite mark matching, and bloodstain-pattern analysis illustrates that point; all of those analyses have long been accepted within their relevant scientific communities but recently have come into varying degrees of question.”