

Stopping Extrapolation, Using Experts, and Exposing Problems with HGN

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This paper is derived from many CLEs, consulting with and observing great lawyers, and, most importantly, trial experience examining prosecution experts, DRE's, persons trained in SFST's, chemical analysts, pharmacologists, medical examiners, DNA geneticists, ballistics and handwriting experts, psychiatrists, psychologists, and more in approximately 100 jury trials ranging from capital murder, personal injury, torts, to an array of civil trials. I have had various experts excluded; received not guilty verdicts in capital murder, habitual felon, rape, trafficking, and myriad other criminal trials; and won substantial monetary verdicts in criminal conversation, alienation of affection, malicious prosecution, assault and other civil jury trials. I attribute any success to those willing to help me, the courage to try cases, and God's grace. My approach to seminars is simple: if it does not work, I am not interested. Largely in outline form, the paper is crafted as a practice guide.

As a practical matter, there are two types of witnesses at trial: a lay witness who has first-hand knowledge of relevant facts, and an expert witness who has special expertise which will assist the trier of fact in interpreting facts of the case. Now for the law on experts.

I. History of Rule 702:

A. Rule 702 (before August 21, 2006):

(a)“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.”

Previously, Rule 702(a) allowed a qualified person to testify in the form of an opinion “if scientific, technical or other specialized knowledge” would “assist the trier of fact to understand the evidence or determine a fact in issue.” At that time our highest court decreed the “North Carolina approach is decidedly less mechanistic and rigorous than the ‘exacting standards or reliability’ demanded by the federal approach.” *Howerton v. Arai Helmet*, 358 N.C. 440, 464 (2004) (any lingering questions concerning the quality of the expert's conclusions go to weight rather than admissibility) *Id.* at 461. Broadly construed by the courts, a peanut farmer qualified.

B. Rule 702 (from August 21, 2006, to October 1, 2011): Added a new subsection.

(a1)“In an impaired driving action under Chapter 20 of the General Statutes, a witness, qualified under subsection (a) of this section and with proper foundation, may give expert testimony solely on the issue of impairment and not on the issue of specific alcohol concentration level relating to the following:

(1) The results of a Horizontal Gaze Nystagmus (HGN) Test when the test is administered by a person who has successfully completed training in HGN.

(2) Whether a person was under the influence of one or more impairing substances, and the category of such impairing substance or substances. A witness who has received training and holds a current certification as a Drug Recognition Expert, issued by the State Department of Health and Human Services, shall be qualified to give the testimony under this subdivision.”

The new language of amended Rule 702 (a1) specifically allowed two types of expert testimony on impairment: (1) results of a HGN test by a witness who successfully completed such training; and (2) DRE testimony by a witness who has received training and holds a current certification issued by DHHS. For both, testimony is admissible only on the issue of impairment and not a specific alcohol concentration. Training and expertise are based upon standardized curricula developed by the National Highway Transportation Safety Administration (NHTSA).

The phrase “and with proper foundation” has stirred much debate, some of which remains. Before the October 1, 2011, amendment, one appellate court interpreted Rule 702 (a1) “as obviating the need for the State to prove...HGN testing... is sufficiently reliable” as a condition of admitting HGN results. *State v. Smart*, 195 N.C. App. 752, 756 (2009) (rejecting defendant’s contention the testifying witness must be an expert in HGN methodology). No published appellate decision has been rendered on the requirements or permissible scope of DRE testimony under Rule 701(a1)(2), although it is similarly worded and the same reasoning may apply – at least pre-amendment. Regardless, the dilemma exists because the current version retains the preexisting language “and with proper foundation” as a requirement for a qualified witness, and *Kumho Tire* holds *Daubert* applies to all expert testimony. Until decided, a practice pointer: Under current law, the best method to impeach HGN testimony is to examine the officer’s knowledge of HGN scientific principles, the various types of HGN, the wide array of common and natural causes for HGN, and use of estimates in testing.

For those who believe the law is unsettled or research is unconvincing, query: (1) Does *Daubert* (and the express language of the rule) or *Smart* control? In other words, how can the court fulfill its gatekeeper role if it cannot consider reliability of HGN or the DRE protocol? Or does the rule express the legislative intent the court should not exercise its gatekeeping function with respect to these two categories of expert testimony? (2) On a finer point, does *Smart* simply hold HGN is a reliable field of expertise, and the rule require the witness to provide a foundation (i.e., a working knowledge or explanation of the principles) of HGN to give testimony on impairment? Does this interpretation allow the case law to be read *in pari materia*? See *State v. Helms*, 348 N.C. 578 (1988) (admissibility of HGN test results from a police officer was inadmissible without foundational evidence). (3) Would the introduction of a corroborating toxicology report satisfy the rule's requirements for reliable scientific principles on HGN and DRE testimony? See *State v. Aman*, 95 P.3d 244 (Or. App. 2004) (omission of a corroborating toxicology report deprived the DRE test of a major element of its scientific basis, particularly without evidence of the examiner's reputation for accuracy as an adequate substitute). (4) Should the law draw a distinction between the walk-and-turn, one leg stand, and HGN tests? All are divided-attention tests, but the first two tests primarily measure behavior (e.g., lack of balance, coordination, etc.) a lay person would commonly associate with intoxication, and the last test requires scientific knowledge to correlate eye movement with intoxication.

Note: Research on scientific reliability of HGN testing supports its proponents and detractors. Cf, Steven J. Rubenzer and Scott B. Stevenson, *Horizontal Gaze Nystagmus: A Review of Vision Science and Application Issues*, Journal of Forensic Sciences (March 2010) (eye movement literature raises serious questions about use of HGN as a road sobriety test) with Marcelline Burns, *The Robustness of the Horizontal Gaze Nystagmus Test*, National Highway Transportation Safety Administration (September 2007) (concluding HGN used by law enforcement is a robust procedure). Testing bias is problematic. For example, the 1998 San Diego study on SFST's is touted by NHTSA as strong proof of its accuracy when conducted by experienced officers, yet almost one-half (48%) reported appreciable impairment (or false positives) at BAC's less than .04.

For a compendium of cross-examination techniques on HGN, see Exhibit A.

C. Rule 702 (since October 1, 2011): Modified subsection (a).

(a)“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, if all of the following apply:

- (1) The testimony is based upon sufficient facts or data.
- (2) The testimony is the product of reliable principles and methods.
- (3) The witness has applied the principles and methods reliably to the facts of the case.”

Amended Rule 702(a) raises the bar for expert testimony and is substantively similar to its federal corollary, Fed. R. Evid. 702. The rule expressly states, if a qualified witness has specialized knowledge which assists the trier of fact, he may testify in the form of an opinion only if the testimony is based upon sufficient facts, is the product of reliable principles/methods, and the witness applied the principles/methods in a reliable manner to the facts. The rule requires sufficiency, reliability, and application to the facts. The rule governs admissibility, performing four distinct functions: (1) it expressly authorizes expert testimony; (2) establishes standards to be applied in determining whether expert testimony should be admitted; (3) provides criteria to be applied in determining whether an individual qualifies; and (4) governs the form of expert testimony. Blakey, Loven, Weissenberger, *North Carolina Evidence Courtroom Manual* 325 (2014).

When construing a statute, courts are to consider state and federal precedent. *See Howerton*, 358 N.C. at 460 (trial courts are to look to “precedential guidance” in deciding whether to admit expert testimony); *See also* Commentary to N.C. Rule Evid. 102 (trial courts are to look to a body of law construing the rules of evidence for guidance, and uniformity of evidence rulings in state and federal courts should be a goal of our courts).

The current state of the law: State judges are now gatekeepers who, at the outset, hear proffers of expert testimony and determine admissibility. *See State v. McGrady*, 753 S.E.2d 361 (N.C. Ct. App. January 21, 2014) *cert. granted*, 2014 WL 2652419 (N.C. June 11, 2014) (amended Rule 702(a) implements the standards set forth in *Daubert*); *Daubert v. Merrell Dow Pharmaceuticals*, 509 U.S. 579 (1993) (defines the judge’s gatekeeping role under Fed. R. Evid. 702); *Kumho Tire v. Carmichael*, 526 U.S. 137 (1999) (recognized *Daubert* principles apply to all types of expert testimony under Rule 702). As a threshold, expert testimony must be relevant and reliable. *Kumho Tire v. Carmichael*, 526 U.S. 137 (1999) (judges “make certain that an expert...employs in the court room the same level of intellectual rigor that characterizes the practice of an expert in the relevant field”). *Id.* at 152. The court must preliminarily assess whether (1) the methodology is scientifically valid, and (2) then determine if the methodology can be applied to the facts. The analysis is not whether the subject matter or studies can be a proper foundation for the expert opinion, but whether the expert’s opinions are sufficiently supported by the studies upon which they rely. *See General Electric Co. v. Joiner*, 522 U.S. 136, 144 (1997) (animal studies upon which the expert relied were too dissimilar to the facts presented). Further, the subject matter must have a sufficient

logical connection to the facts, requiring more than the *ipse dixit* of the proffered expert. In other words, is there too much of an analytical gap between the data and opinion proffered? *Id.* at 146. The judge’s gatekeeping obligation includes not only scientific testimony, but all expert testimony, and traditional fields of knowledge may be subject to review as well as novel or unconventional subject matter. *Kumho Tire* at 137. Caution: Pre-amendment appellate cases suggest *Daubert*, or at least the approach post *Howerton*, did not require trial courts to re-determine reliability of a field of specialized knowledge consistently accepted by our courts, absent new evidence calling reliability into question. *State v. Berry*, 143 N.C. App. 187, 546 S.E. 2d 145 (2001); *State v. Speight*, 166 N.C. App. 106, 602 S.E. 2d 4 (2004). Response: Would the 2009 report by the National Academy of Sciences, entitled *Strengthening Forensic Science in the United States: A Path Forward*, finding the current forensic science approach nationwide was “seriously wanting,” and, with the exception of nuclear DNA analysis, concluding no forensic method has been rigorously shown to have the capacity to consistently, and with a high degree of certainty, demonstrate a connection between evidence and a specific individual or source, constitute “new evidence calling reliability [of traditional forensic science disciplines] into question”?

Standard of review: Rulings on expert admissibility are reviewed for “abuse of discretion.” *Howerton*, 358 N.C. at 469; *State v. Cooper*, 747 S.E.2d 398 (N.C. Ct. App. Sept. 9, 2013); *see also Joiner*, 522 U.S. at 138.

There is no exhaustive or dispositive list of factors. *Daubert* factors may be largely inapplicable to certain expert testimony. A compilation of various case factors is listed below:

- A. *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993): (1) whether the theory or technique can be or has been tested; (2) whether the theory or technique has been subjected to peer review and publication; (3) the known or potential rate of error of a particular scientific technique; (4) explicit identification of a relevant scientific community and an express determination of a particular degree of acceptance of the theory or technique within the community; and (5) a focus upon principles and methodology, not conclusions that such principles and methodology generate.
- B. *Elock v. Kmart Corp.*, 233 F.3d 734, 745-46 (3rd Cir 2000): (1) whether a method consists of a testable hypothesis; (2) the existence and maintenance of standards controlling the technique’s operation; (3) the relationship of the technique to methods which have been established to be reliable; (4) the qualifications of the expert to employ the methodology; (5) the non-judicial uses to which the method has been put; and (6) other *Daubert* factors.

- C. *State v. McGrady*, 753 S.E.2d 361 (N.C. Ct. App. 2014) *cert. granted*, 2014 WL 2652419 (N.C. June 11, 2014): (1) whether the expert is testifying to scientific knowledge; (2) whether the scientific knowledge will assist the trier of fact to understand or determine a fact in issue; and (3) other *Daubert* and *Elock* factors.
- D. *State v. Davis*, 721 S.E.2d 763 (N.C. Ct. App. February 7, 2012) (unpublished opinion): (1) is the proffered method of proof sufficiently reliable as an area for expert testimony; (2) is the witness qualified as an expert in that area of testimony; (3) is the testimony relevant; (4) is there precedential guidance, or is the court faced with novel scientific theories, unestablished techniques, or compelling new perspectives on otherwise settled theories or techniques; (5) are there “indices of reliability,” including the use of established techniques, professional background in the field, use of visual aids, and independent [tests or] research [or verification of same], so the jury is not asked to sacrifice its independence by accepting scientific hypotheses on faith; and (6) relevant statutory requirements for admissibility.
- E. An illustration of individualized case factors is found in *Kumho Tire v. Carmichael*, 526 U.S. 137 (1999). The Supreme Court addressed the following considerations for an engineer’s analysis of tire failure: (1) actual inspection of the tire; (2) qualifications in terms of degree(s) and experience; (3) inability to determine precisely the number of miles the tire had been driven; (4) formation of an opinion based on photographs; (5) inspection of the tire on the day of deposition; (6) data the witness relied upon contained errors; (7) subjective nature of the analysis; and (8) reliance upon a theory without evidence any other experts had used this theory or any published articles or papers had relied upon the theory.

The constitutionality of amended Rule 702(a) has yet to be litigated. In *Howerton*, the court expressed concern that sweeping gatekeeping authority may encroach upon North Carolina’s constitutionally-mandated function of the jury to decide issues of fact and assess weight of the evidence. *Howerton*, 358 N.C. at 468; *see also* N.C. Const. Art. I, §§ 24, 25 (right to jury trial in criminal and civil cases); *State v. Cooper*, 747 S.E.2d 398 (N.C. Ct. App. Sept. 3, 2013). However, given our appellate courts have upheld exclusion of expert evidence as a matter of law on polygraph examinations, penile plethysmograph, hypnotically refreshed testimony, NarTest (for controlled substances), visual identification of powder cocaine, and identification of controlled substances by comparison to pills in the Micromedix manual, it appears some standard would be upheld under the rule. Blakey, Loven, Weissenberger, *North Carolina Evidence Courtroom Manual* 330-331 (2014).

II. Effective Date:

Amended N.C. R. Evid. 702 applies to “actions arising on or after” October 1, 2011 in both criminal and civil contexts. N.C. R. Evid. 1101(a); *State v. Meadows*, 752 S.E. 2d 256 (N.C. Ct. App. October 1, 2013) (holding amended Rule 702(a) governed admissibility of expert testimony in a criminal case); *Swartzberg v. Reserve Life Ins. Co.*, 252 N.C. 270, 276 (1960) [a civil action “arises” when a party has a right to apply to the court for relief (or when the statute of limitations begins)].

In a criminal case, the following rules apply:

- A. A criminal action arises when the defendant is indicted. *State v. Gamez*, 745 S.E.2d 876, 878 (N.C. Ct. App. July 16, 2013).
- B. The date of indictment determines which version of the rule applies.
- C. The new rule applies to new or superseding indictments obtained on or after October 1, 2011. *State v. Walston*, 747 S.E.2d. 720 (N.C. Ct. App. August 20, 2013) (amended Rule 702(a) applies on date of the superseding indictment, not the original indictment).
- D. A second bill of indictment (filed after October 1, 2011) joined with the first indictment does not trigger application of the new rule as “the criminal proceeding arose on the date of the filing of the first indictment.” *Gamez*, 745 S.E.2d at 879.

III. Expert Witness Qualification:

I recommend filing a “Motion for a Rule 702(a) hearing” for a *voir dire* examination of proposed experts. This will allow the judge (and you) to consider the expert’s credentials, knowledge of the case facts, application of principles/methods to the case, and validity of the field. The outline below is designed for a *voir dire* examination. Variations may be necessary based on the judge, field of expertise, and stage of the examination.

Background.

Education.

Employment.

Training in related area(s) of expertise? Discipline(s)/Sub-discipline(s)?

Licensed?

Published?

Membership in professional organizations?

Qualified as an expert? Appeared in or consulted with the courts? Prosecution and/or defense? Denied expert status? Fact witness?

Describe the area of expertise. Explain what you do.

[At trial, tender as an expert]

Do you follow a standard procedure? Describe the process for the jury.

Know defendant?

Describe your history with defendant. Did you follow your standard procedure?

- Cover case facts (“sufficient facts or data”).
- Discuss principles and methods utilized.
- Discuss the reliability of the principles and methods used. Use “indices of reliability”: (e.g., professional background in the field, use of established techniques, relevant studies, independent research, theory(ies) tested, subject to peer review, publications, visual aids, is the theory deemed reliable in the relevant scientific community, what is the known or potential rate of error, etc.).
- Demonstrate how the expert applied the principles and methods reliably to the facts.

Summarize your findings.

Render opinion.

Tender as an expert.

- These sections are required by the new rule.

IV. The Basics: The new rule and examination techniques.

The new rule is about relevance and reliability.

The basic premise: If the expert (a) applied reliable methodology (b) to the facts of the case (c) in a reliable manner, it is admissible.

The tension: Junk science makes the proceedings fundamentally unfair violating the defendant’s due process rights versus excluding reliable expert testimony violates the defendant’s due process rights to present a full defense.

My basic preparation and cross-examination model: Start well and end well. Use your style. Remember the jury is always watching you and, when you get surprised or skewered, do not react. After you have prepared important topics for cross-examination and know your theory(ies) of the case, consider these fundamentals: (1) know the material by reading the subject matter and consulting with your own expert; (2) call the prosecution's expert and ask what is important, what is not, and what you are missing; (3) if you believe it may help and have the time, go visit the expert and ask if you can view testing procedures; (4) if direct examination yields little to no harm (or you cannot effectively cross), ask no questions; (5) if you elect to cross, disarm the witness initially with a pleasant style; (6) elicit basic, then favorable material, on the subject. Build your position by asking questions the expert cannot refute; (7) lead the witness using short fact questions; (8) loop favorable responses into your next question; (9) listen for unexpected or illogical responses, and consider if further cross would lead the fact-finder to question the witness's common sense. In *voir dire*, think like a judge. At trial, think like a juror. Jurors want evidence to be understandable and make sense. Use the lens of your audience; (10) simplify the expert's responses; (11) near the end, impeach the expert about prior inconsistent statements/testimony; (12) quit when you receive concessions or discredit the witness; (13) save the ultimate question for closing argument; and (14) simplify the law and facts for the judge.

Evidentiary methods of impeachment: Those typically applicable to experts are underlined and include: (1) prior inconsistent statement; (2) impeachment (self-contradiction); (3) contradiction; (4) first aggressor (victim); (5) prior bad acts; (6) convictions; (7) character impeachment (lack of truthfulness); (8) specific instances (untruthfulness); (9) mental incapacity; (10) perceptual incapacity; (11) personal knowledge; (12) opinion and/or reputation; (13) learned treatises; and (14) bias, interest, motive or prejudice.

Fertile areas of expert impeachment include: (1) lack of knowledge of material case facts; (2) published articles; (3) prior testimony; (4) employment with and history as an expert witness for the prosecution; (5) publications by other experts in the field contrary to the position espoused by the testifying expert. *See State v. Whaley*, 362 N.C. 156 (2008) (criminal defendants must be afforded wide latitude to cross-examine witnesses regarding credibility); *State v. Williams*, 330 N.C. 711 (1992) (a witness may be examined on any matter relevant to any issue in the case, including credibility); *State v. Hunt*, 324 N.C. 343 (1989) (if witness either denies or testifies differently from a prior inconsistent statement, you may impeach the witness with the substance of the prior inconsistent statement); (6) reliability of the principles and methods cited by the expert; and (7) the expert's application of the principles and methods used in a reliable manner to the facts.

Common evidence rules: N.C. Rule Evid. 104(b); 106; 201; 401; 402; 403; 404(a)(1), (2), and (3); 404(b); 405; 602; 607; 608(b); 609; 611(b); 613; & 803(18).

V. Practice Strategies/Tips:

Notice requirements: In superior court, insure the prosecution has complied with notice requirements under N.C. Gen. Stat. §15A-903(a)(2). The prosecution must give notice to defendant of any expert witness the prosecution reasonably expects to call as a witness; include a report of examinations or tests conducted; and furnish the expert's curriculum vitae, opinion, and the underlying basis for that opinion, all within a reasonable time prior to trial.

Statutory discovery notice requirements only apply to cases within the “original jurisdiction” of superior court. N.C. Gen. Stat. §15A-901. Original jurisdiction of superior court is defined within N.C. Gen. Stat. §7A-271(a). Per one of the drafters, consider whether the DWI “originates for trial” in superior court (e.g., the DWI is indicted with a felony, etc.). If so, statutory discovery should apply.

North Carolina has “notice and demand” statutes, and relevant provisions are listed below.

- A. The district attorney must serve a copy of the lab report and affidavit and indicate it will be offered as evidence against the defendant no later than five business days after its receipt or thirty business days before proceeding. N.C. Gen. Stat. §8-58.20(d).
- B. The district attorney must notify the defendant of its intent to introduce chain of custody documents and provide the defendant with a copy at least fifteen days before proceeding. If the defendant files a written notice of objection with the court at least five business days before proceeding, admissibility is governed by the rules of evidence. N.C. Gen. Stat. §8-58.20(g).
- C. Results of a chemical analysis of blood or urine are admissible without authentication or testimony of the analyst if the prosecution notifies the defendant at least fifteen days prior to proceeding of its intent to introduce the report, provides a copy of the report to the defendant, and defendant fails to file a written objection with the court and State at least five business days before the proceeding. If a timely objection is filed and served, admissibility is governed by the rules of evidence. N.C. Gen. Stat. §20-139.1(c1).
- D. Use of the chemical analyst's affidavit in district court allows admission without authentication and testimony if the State notifies the defendant at least fifteen business days before proceeding its intent to introduce the affidavit,

provides a copy of the affidavit to the defendant, the defendant fails to file a written objection with the court and State at least five business days before proceeding. If a timely objection is filed and served, admissibility is governed by the rules of evidence. The case shall not be dismissed unless the analyst willfully fails to appear after a court order to appear. N.C. Gen. Stat. §20-139.1(e1).

- E. Lab reports for chemical analysis of controlled substances are admitted without further authentication or testimony if the State notifies the defendant at least fifteen business days before proceeding of its intent to introduce the report, provides a copy of the report, and defendant fails to file a written objection with the court and State at least five business days before proceeding. If a timely objection is filed and served, admissibility is governed by the evidence rules. N.C. Gen. Stat. §90-95(g).

Notice and demand statutes are found in Chapters 8 (Admissibility of Forensic Evidence); 20 (Procedures governing chemical analyses, admissibility, and evidence in Motor Vehicle cases); and 90 (Controlled Substances Act). These statutes may apply specifically to district court or to district and superior courts.

Always file objections to any notices. You may always withdraw the objection.

I always file *Brady, et al*, motions and ask to be heard on them. I want the prosecutor to be reminded, directly and in front of the judge, of the prosecutor's duty to disclose exculpatory information. I also put in the record the holdings of *Kyles v. Whitley*, 515 U.S. 419, 437 (1995) (prosecutor has an affirmative duty to ask for, seek, and investigate the existence of exculpatory and/or impeachment material favorable to the defense) and *State v. Tuck*, 191 N.C. App 768 (2008) (district attorney's office serves a dual role as both a law enforcement agency and prosecutorial office).

Understand the difference between statutory motions to suppress and motions in limine (threshold evidence issues): (1) N.C. Gen. Stat. §15A-971, *et seq.*, addresses motions to suppress evidence in superior court and requires the formality of a timely, written motion and affidavit to preclude introduction of statements or property illegally obtained when exclusion is required because of a violation of state and/or federal constitution(s) or a substantial violation of Chapter 15A, the Criminal Procedure Act; (2) N.C. Gen. Stat. §15A-973 addresses motions to suppress evidence in district court, generally allowing oral motions to be heard during trial or pretrial by consent; (3) N.C. Gen. Stat. §20-38.6 addresses motions in driving while impaired cases in district court, typically requiring motions to suppress evidence or to dismiss charges to be heard pretrial unless the defendant discovers facts during trial not previously known or is otherwise based on insufficiency of the evidence; and (4) Otherwise, motions in limine may be heard orally at the appropriate time in district court, and said motions should

be in writing and filed within a reasonable time in superior court. N.C. Gen. Stat §15A-953 (Motions practice in District Court); N.C. Gen. Stat §15A-951, *et. seq.* (Motions practice in Superior Court).

File motions that matter. Craft them with precision. Allege specific facts, which if found to be true, support suppression or the relief sought. Distill the law and key facts. Quickly show the judge why you are right.

Do your own research on the subject. Consult with other experts in the field. Get your expert's view of the State's expert's analysis and opinion. Then frame your cross-examination.

Have your expert listen to relevant pretrial/trial testimony. *State v. Lee*, 154 N.C. App. 410 (2002) (appellate court upheld denial of proffered defense expert as he did not interview witnesses, visit the crime scene, or observe testimony of witnesses).

Call the State's expert in advance. Some will talk to you, alerting you to unseen problems or fertile areas of cross. Some will not talk with you, a fact that tilts the judge's or jury's view once exposed.

Consult with other experienced attorneys, including the Appellate Defender, Capital Defender, UNC-School of Government, IDS, board certified specialists, and great trial lawyers.

Consider a "Motion for a Rule 702(a) Hearing." *Voir dire* the expert to examine qualifications, obtain answers to risky questions or unclear issues, and test the three prong requirement under the new rule.

Ask the court to hear from your expert before it rules on the prosecution's expert. Consider submitting your expert's affidavit for the court's consideration prior to ruling.

Critically analyze the expert's report. Limit the expert from testifying beyond the scope of his expert status or scope of his report.

If appropriate, consider drafting a concise stipulation or stipulating to the report. Jurors are impressed with skilled experts. This is also a good tactic if the stipulation or report minimizes emotion or improves closing argument.

If the expert takes materials to the stand and either reviews the same while testifying or admits to earlier review to refresh his recollection, ask the court for permission to examine the expert's notes/materials before you begin your cross. Often a gold mine. N.C. R. Evid. 612(a) and (b).

When examining an expert, frame the examination to gain admissions. Lead the witness. Listen to the answers. I repeat: listen to the answers. Nuggets come unexpectedly.

Style your cross-examination using closing argument themes. Craft closing argument with quotes, concessions, and principles gleaned from cross.

Recast the expert's technical terms/esoteric language into plain and simple terms.

Do not write out your cross-examination. I use bullet-point, topic reminders in the right hand margin. This technique allows you to listen, armed with a master checklist.

If the expert is evasive and nonresponsive, be more patient than with a lay witness. Keep redirecting and simplifying. The judge gets it sooner; juries get it later.

If the expert is arrogant, capitalize and contrast. Pause for effect, ask for forgiveness, and ask the expert to help you (and the jury) to understand. But be genuine, not obsequious.

Do not quarrel with the expert. Be humble and gracious. The jury will love you – and learn with you.

Generally, a question that elicits an explanation is too long or too complex.

The jury expects conflict. Just be the likeable participant.

Ask the judge for a moment to review your materials before ending your examination. Scan your notes. Take a moment with your client. A valuable technique.

Stop when you either obtain concessions or discredit the witness. End well.

Consider how expert testimony may infringe upon evidence rules, statutes, and constitutional protections.

Use language familiar to the judge. Is the proffered expert's method of proof sufficiently reliable, is the witness qualified, and is the testimony relevant? *State v. Goode*, 341 N.C. 221 (1998) (recites the former standard for admission of expert evidence).

Argue the specific language and requirements of the rule. There is no discretion to admit without meeting the rule. Practice pointer: The prosecutor may argue *Daubert* says Rule 702 is broad and flexible, and the rules of evidence are designed to admit evidence whenever possible. *Daubert*, 509 U.S. at 489-95. Counter that (a) *Joiner*, a

post *Daubert* U.S. Supreme Court case, rejected the view the rules of evidence governing expert testimony preferred admissibility, and (b) tell the court there is no ambiguity and, if there is, the *Rule of Lenity* governs (ambiguities in criminal statutes defining crimes and punishments shall be interpreted and strictly construed in favor of the accused). *State v. Linton*, 361 N.C. 207 (2007). The rule expresses mandatory prerequisites for admission. Tell the court it is a hot topic for appellate review.

Constitutionalize all objections: cite due process, confrontation clause, right to obtain witnesses in the defendant's favor, effective assistance of counsel, fundamental fairness, etc. Always raise comparable state and federal constitutional provisions (e.g., 4th, 5th, and 6th Amendments of the U.S. Constitution applicable to the states under the 14th Amendment and Article 1, Sections 19, 20, and 23 of the North Carolina Constitution). Constitutional objections reverse the standard of appellate review such that error must be "harmless beyond a reasonable doubt."

Be mindful of rebuttal testimony. Consider keeping your expert around.

Be the most reasonable person in the courtroom.

Remember: (1) judges are reluctant to grant a suppression motion. Be prepared, make your point, and show why you are right; (2) educate the judge on the law. Empower the gatekeeper to protect the system; (3) prosecutors believe they will win and often prepare minimally with witnesses, on the facts, and the law; (4) a general notice may not comport with statutory requirements, failing to trigger timing requirements and limiting expert evidence; (5) ask the trial judge to hear and rule on the motion pre-trial. This will allow reconsideration of a denial during trial. *State v. Woolridge*, 357 N.C. 544 (2003); (6) the judge must rule on your motion while session is *in fieri* unless the parties agree to a ruling out-of-session; (7) request specific findings and conclusions of law in the order. Absent a request, the record is presumed to support the judge's ruling. *Estrada v. Burnham*, 316 N.C. 318 (1986); (8) object to introduction of the evidence during trial. Failure to do so waives appellate review. *State v. Williams*, 355 N.C. 501 (2002); (9) renew your objections at the close of the State's case-in-chief, end of all the evidence, and post-trial; and (10) an adverse ruling may be preserved and reviewed on appeal post-conviction or a guilty plea. N.C. Gen. Stat §15A-979(b). State your intent to give notice of appeal on the record in open court, and record your appeal of the suppression issue in writing on the plea transcript. Otherwise, the appeal is waived. *State v. Tew*, 326 N.C. 732 (1990); *State v. McBride*, 120 N.C. App. 623 (1995). For a compendium of the law and practical advice on suppression motions, See JAMES A. DAVIS, MOTIONS TO SUPPRESS: STATEMENTS, PROPERTY AND IDENTIFICATION, (2010), presented at the 2010 Regional Training for Criminal Defenders I: Trial Preparation, October 8, 2010.

VI. Case in point:

In a recent Superior Court DWI prosecution, Paul Glover, the leading DWI expert for the State of North Carolina, was excluded as an expert witness. My preparation included reviewing my prior examination(s) of Mr. Glover, reading transcripts of his testimony, distilling strategies gleaned from various CLEs, preparing a notebook of reliable authorities and articles on retrograde extrapolation, and crafting my cross examination. The order is attached herewith as Exhibit B. A copy of the transcript is available through IDS at <http://www.ncids.com/forensic/motions/motions.shtml>

Synopsis of case facts: Defendant hit several mailboxes driving his truck in the late afternoon on a country road. Neighbors observed the event and called law enforcement. A trooper went to defendant's home about an hour later, found him highly intoxicated in bed, and arrested him for DWI. Defendant asserted he got excited, drank most of a pint of liquor, and blew a .30. I filed a motion for a Rule 702(a) hearing. Post hearing, Mr. Glover was excluded as an expert witness.

The strategy and method I used to examine Mr. Glover is in outline form. His general responses are contained within the parenthetical following each entry:

Alerted the Judge prehearing Mr. Glover was the State's flagship DWI expert, the case was an absorption phase and not a retrograde extrapolation case, and I was puzzled about the theory Mr. Glover would espouse.

Asked the court to release the defendant before *voir dire* to eliminate observations of defendant.

Covered academic background (BS and Master's Degrees in biology from FSU).

Covered work history (generally in lab research, a police officer, and 17th year with state of N.C.; emphasized he is currently a police officer).

Covered prior acceptance by state and federal courts as an expert (310 to 320 times; tendered as expert in various fields of expertise; testified nine times for the defense).

Covered current occupation (head of Forensic Tests for Alcohol Branch within DHHS; trains officers on breath tests using instruments; conducts training on SFST's and DRE's; oversees permit issuance of chemical analysts who draw blood for alcohol and drug tests; and trains judges, prosecutors, and law enforcement officers in the testing and effects of alcohol and drugs).

Asked if he was a research scientist (yes).

Asked if he did any studies of alcohol in three previous jobs (no).

Asked if he had heard any testimony in the instant case (no).

Requested the factual basis he was relying on to provide an opinion (rough knowledge based on conversations with the prosecutor and review of charging documents).

Requested factual basis for time of alcohol consumption either before, during, or after driving (said he would start at end point of .30 breath test at 9:19 p.m. and work backwards).

Requested again the factual basis to render an opinion (male, 130 lbs., review of officer's DWIR form, history of alcohol use, preventive maintenance was current, no statements by defendant).

Asked if he spoke with the officer (no).

Asked again if there were other facts which helped him render an opinion (he began to discuss rate of elimination, etc.; I redirected).

Asked if he knew the type of alcohol consumed (no).

Asked if he was testifying regarding a particular theory, retrograde extrapolation or another (he did not know).

Asked why he was here (because he was faxed information and subpoenaed to come, and he may be used on direct or rebuttal).

Asked if prepared a report (no).

Asked if he had ever been denied expert status (yes; one time in Brunswick County).

Asked if he was a medical doctor (no).

Asked if he had a degree in a related discipline like physiology or pharmacology (no).

Asked if he had a doctorate in those fields (no; he says he is certified by the Forensic Toxicology Certification Board as a diplomate in alcohol toxicology).

Asked which fields of expertise he expected to apply in the instant case (breath alcohol testing, Intoxilyzer 5000, blood alcohol physiology, pharmacology, and related research).

Asked about process of alcohol consumption, absorption, and elimination.

Asked if he agreed there is an absorption phase (yes).

Covered factors that affect absorption (food, gender, alcohol concentration, etc.).

Asked if there is a peak alcohol concentration (yes; between 15 and 90 minutes; normally expect about 45 minutes).

Asked if he agreed there is a large degree of variability in absorption (it is very difficult to measure; there is some variability).

Asked about articles and research in medical journals on ethanol metabolism (he gets his information from reading journals).

Quoted hypotheses, findings, and statements from reliable authorities and journals on rates of absorption (e.g., factors include concentration of alcohol, speed of consumption, rate of gastric emptying, etc.).

Asked about elimination rates (accepts .012 to .054 as the credible range for rates of elimination; uses the rate of .0165 because of *State v. Cato*).

Asked about NHTSA training standards (he does not personally do NHTSA training).

Asked about NHTSA comparisons of beer, wine, and liquor consumption with similarly-sized, same gender individuals and resulting alcohol concentrations.

Questioned him about a number of published studies, medical journal articles, and expert opinions; asked him who were reliable authorities in the field; and asked what articles he found reliable, and why. Used quotes from persons he deemed reliable authorities to show disagreement within the field, even on retrograde extrapolation.

Asked if blood, breath, or urine testing was more reliable (stated he did not know what I meant by reliable).

Asked him to show the court any authority supporting his position (none).

Asked if he used the scientific method (yes).

Walked through the scientific method (i.e., establish an objective, gather information, form a hypothesis, design the experiment, perform the experiment, verify the data, interpret the data, repeat) (he agreed).

Asked to admit there are variables that would change his opinion (yes).

Identified variables (food, gender, etc.).

Asked to admit that, without making a single assumption, he could not tell the defendant's BAC at the time of driving (agreed he could not).

Asked to admit he recently testified on a theory of odor analysis (yes).

Asked about his hypothesis on odor analysis and opinion of a specific alcohol concentration (.16 to .18).

Asked if the appellate court said it was a novel scientific theory (yes).

Asked if the appellate court said it was unreliable (he did not believe so).

Refreshed his recollection of the court's holding and findings.

Asked if he had received peer review (he asked what I meant; stated there is no peer review unless you publish).

Asked if he had published (published in a newsletter, etc.).

Asked to name any reputable authorities in the field who had done a peer review on him (none).

My argument: Mr. Glover had insufficient, and incorrect, facts; did not articulate application of any field(s) of expertise (or their principles/methods) to the facts; *a fortiori*, did not reliably apply any field of expertise (or principles/methods) to facts; Rule 702(a), as amended, specifically required the same; the proffered expert recently espoused, as described by our appellate court, a “novel theory” on odor analysis (ethanol has no odor); the purpose of *voir dire*; the instant case was an absorption case, and the proffered expert could not assist the trier of fact; covered “indices of reliability,” citing the absence of established techniques, visual aids, independent research, or peer review, thus leading the jury to sacrifice its independence and accept scientific hypothesis on faith; noted a prior example of expert exclusion when a witness had merely read published articles and research; referenced infringement of Rule 609 (limiting impeachment of crimes to cross-examination) and Rule 405(a) [barring expert evidence on credibility of a witness; *see also, State v. Hammett*, 361 N.C. 92 (2006)] in light of his expected testimony about “experienced drinkers” and apparent intent to reference defendant’s prior DWI’s in the State’s case-in-chief; and a final concern about appellate review, highlighting again Mr. Glover’s lack of familiarity with the evidence, failure to apply the principles/methods of any field of expertise, and the requirement he do so reliably.

Sidebar: Mr. Glover (1) relied primarily upon the charging documents for his factual basis; (2) drew a distinction between social drinking (drinking slowly over time) and a bolus dose (drinking fast as in slamming shots); (3) asserted a bolus dose hastens peak alcohol concentration, possibly cresting in fifteen minutes; (4) distinguished between experienced drinkers (prior DWI’s) and recreational drinkers (the occasional consumer); and (5) used an alcohol elimination rate of .0165, citing it is more favorable to the defendant.

VII. Case Law: Cases are cited chronologically by date of opinion.

State v. Pennington, 327 N.C. 89 (1990) (in determining whether an expert’s method of proof is sufficiently reliable for expert testimony, the court should focus on indices of reliability including the expert’s use of established techniques, professional background in the field, use of visual aids, independent research, and more, so the jury is not asked to sacrifice its independence by accepting scientific hypotheses on faith).

Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579 (1993) (trial court may consider, among other things, whether a theory can be or has been tested, has been subjected to peer review and publication, is generally accepted as reliable in the relevant scientific community, and the known or potential rate of error).

General Electric Co. v. Joiner, 522 U.S. 136 (1997) (refined the judicial gatekeeping process, focusing upon whether the expert's opinions were sufficiently supported by the studies upon which they rely and the logical connection of the subject matter to the facts).

Kumho Tire v. Carmichael, 526 U.S. 137 (1999) (recognized *Daubert* principles apply to all types of expert testimony under Rule 702).

Howerton v. Arai Helmet, 358 N.C. 440, 464 (2004) (North Carolina Supreme Court rejected *Daubert* approach to expert evidence).

Department of Transportation the Haywood Co. 167 N.C. App. 55, 604 S.E. 2d 338 (2004) (expert's opinion need not be proven conclusively reliable or indisputably valid before admitted; if evidence is more than mere speculation, the jury decides the weight to be given).

State v. Speight, 166 N.C. App. 106, 602 S.E. 2d 4 (2004) (trial court is to be given flexibility as to what factors to consider when determining reliability of expert testimony; absent new evidence, a trial court need not re-determine in every case reliability of a particular field of knowledge consistently accepted by our courts).

State v. Davis, 721 S.E.2d 763 (N.C. Ct. App. February 7, 2012) (unpublished opinion) (holding Mr. Glover's odor analysis was so unreliable the trial court abused its discretion in admitting his testimony). A good summary of the legal analysis of amended Rule 702(a).

State v. McGrady, 753 S.E.2d 361, 365 (N.C. Ct. App. 2014) *cert. granted*, 2014 WL 2652419 (N.C. June 11, 2014) (holding in light of amended Rule 702(a) the trial court did not abuse its discretion by excluding defendant's expert testimony on the "use of force" doctrine. The court noted the current amended language implements the standards set forth in *Daubert*); *see also Wise v. Alcoa, Inc.*, 752 S.E.2d 172 (N.C. Ct. App. December 3, 2013); *State v. Hudson*, 721 S.E. 2d 763 (N.C. App. 2012) (unpublished opinion).

As of this writing, *McGrady* is pending before the North Carolina Supreme Court. Subsequent appellate history reveals it has been cited in a dissenting opinion and a brief.

VIII. Summary:

Prepare, research, consult, and try cases. Be objective about your case and expert(s). Be courageous. Stand up to prosecutors, judges and court precedent, if you believe you are right. Make offers of proof and a complete record. It appears the path to expert status just got steeper - for everyone. I leave you with words of hope and inspiration

from Joe Cheshire, an icon of excellence, and one of many to whom I esteem and aspire. Hear the message. Go make a difference.

“A criminal lawyer is a person who loves other people more than he loves himself; who loves freedom more than the comfort of security; who is unafraid to fight for unpopular ideas and ideals; who is willing to stand next to the uneducated, the poor, the dirty, the suffering, and even the mean, greedy, and violent, and advocate for them not just in words, but in spirit; who is willing to stand up to the arrogant, mean-spirited, caring and uncaring with courage, strength, and patience, and not be intimidated; who bleeds a little when someone else goes to jail; who dies a little when tolerance and freedom suffer; and most important, a person who never loses hope that love and forgiveness will win in the end.”

Epilogue: “The day may come when we are unable to muster the courage to keep fighting . . . but it is not this day.”

Attributed to: *The Lord of the Rings: Return of the King* (2003).

Additional Resources:

Gordon Widenhouse, *Changes to Rule 702(a): Has North Carolina Codified Daubert and Does It Matter?*, Trial Briefs, Apr. 2012 at 9-11.

Shea Denning, *Daubert and Expert Testimony of Impairment*,² UNC SOG NC Criminal Law Blog, July 1, 2014.

Judges Robert C. Ervin and Shannon R. Joseph, *Applying North Carolina Rule of Evidence 702(a)*, NC Superior Court Judges Conference, October 2013.

Shea Denning, *Expert Testimony Regarding Impairment*,² UNC SOG NC Criminal Law Blog, June 9, 2010.