

## Polygraph Testimony in Criminal Cases

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There are two general situations today where examiners might find themselves testifying about examinations they or others have conducted in criminal cases: as an expert witness and/or as the examiner of record. As is the case for other professions (medicine, engineering, etc.) expert testimony tends to be offered by academics while results from specific cases tend to come from current practitioners. Unlike the aeronautical expert who can prove that bees can't fly, polygraph practitioners are more like beekeepers that just know they can but have difficulty explaining how. Ideally, it would be wonderful if all examinations were conducted by highly experienced current practitioners that are also engaged in polygraph writing and research, but seldom is the case. Practitioners argue that they don't have time to engage in research while academics maintain that they simply have no need to practice in the field for the type of research they desire and, further, practicing would unduly influence their research perspective.

I have testified about polygraph both as an expert and a practitioner in federal, state and local criminal proceedings, federal and state legislative hearings, military courts martial, EEOC, NLRB, medical and law license revocation proceedings, Juvenile Court and probably a few other venues I have forgotten. While not always pleasant, I have always found these experiences to be challenging and know I have gained new, positive insights about myself, the profession and both the technical and clinical aspects of polygraph. For those so inclined, I therefore encourage you to take whatever steps are necessary to become qualified as a polygraph expert. The American Polygraph Association (APA) has published and made available on disc several excellent articles on foundation testimony as well as what examiners can expect on direct and cross-examination. I therefore, have chosen to limit my comments in this article to just a few areas that may be of interest to both foundation experts and practitioners: competency, standardization, technique and examiner bias.

### Competency

In times gone by, there were major differences in polygraph training, procedure and technique. While some examiners were self-taught and just started practicing, others went through lengthy formal training programs with internships and licensing requirements. Today, in order to be recognized by the APA, polygraph schools must teach a standardized curriculum, at least with regard to basic polygraph topics. While differences still exist among and between polygraph schools, particularly with regard to the qualifications and instructional abilities of their faculties, these differences are relatively minor.

There are testimonial advantages to being licensed by an independent state licensing agency as opposed to being certified by the school to which the student paid tuition however the real issues here concern the actual requirements of certification vs. licensing. In situations where there are big differences between the two, examiners should always try to become qualified under the more stringent standard. More problematic, however, are the internship requirements of the various training programs. Clearly, an internship involving actual, a real-life subject is more desirable than one involving role-playing with other polygraph students. Likewise, a captive internship, preferably using an on-site intern instructor licensed by an agency independent of the school, is more desirable than one where the intern merely sends back videos or charts of examinations they have conducted in the field. While much can be learned from reviewing records of examinations previously conducted, improvements in procedure and technique can sometimes only be made by observing the examiner with the subject at the time of the examination. As most examiners know, there are often different causes for the same results not apparent in the results themselves. In situations where there are no captive internship requirements, examiners can

mentor with a more qualified or experienced examiner. When done professionally with pre-determined procedures and criteria, mentorships can become the equivalent of captive internships and should be available at no or little cost to all examiners. While there are still a few federal agencies that prohibit the audio/visual recording of examinations, most examiners have accepted this as standard practice. Even if the proceedings and charts are not reviewed by an intern supervisor or mentor, all examiners can review their own charts and, in most cases, a video of the examination pre-test and process. As an international instructor of interviewing, interrogation and polygraph, I cannot exaggerate the value of reviewing a tape of an examination you yourself have conducted. In fact, if you ever feel the need for a little humility medicine, just watch a tape of yourself conducting an examination sometime, or better yet, show a tape before a group of fellow practitioners and ask for input. You will quickly discover that none of us have ever conducted the perfect examination. There will always be things that can be improved. Hopefully, none of the errors or omissions you identify in your own review will rise to the level effecting accuracy. It is therefore useful, when discussing polygraph procedure or a specific examination, to try to present things in a flexible manner, emphasizing the redundancy and checkpoints used to identify causes of error and protocols used to eliminate or minimize these same causes. Claims of infallibility almost guarantee challenges that result in discovery of minor deviations in procedure, none of which have any real effect on examination accuracy. Nevertheless, any admission of a deviation after a portrayal of perfection or inflexible standardization will most certainly be viewed negatively.

Continuing education, required or voluntary, is another indication of examiner competency provided there is evidence that the information from the continuing education is being incorporated into the examiner's practice. Examiners that merely attend conferences but over time, never change their procedures are probably not assimilating advances within the field. Change, *per se*, does not necessarily indicate competency since some examiners might change only because they were forced to or because they simply want to be different. Competency might be indicated by asking the examiner if they've read or heard about some new development and, if they've changed their procedure, to explain why and, if not, why not. For example, while the Computer Voice Stress Analyzer (CVSA) might mark a change in credibility assessment instrumentation, polygraph examiners who refuse to make this change should be able to articulate a basis for not changing and cite research that supports the refusal.

Another way that any examiner can demonstrate his or her polygraph competency in testimonial situations is to teach polygraph related material. If someone is an effective instructor, as demonstrated by their ability to remain in this capacity over a significant period of time, it becomes self-evident that they know the material and have kept current. While the examiner's instructional abilities and experience don't necessarily have to be limited to formal polygraph schools, the instructional material should be directly related to truth verification and the detection of deception as opposed to general criminal justice, psychology or military training.

While this is probably true of all professions, there is no substitute for experience with regard to examiner competency. While the examiner's training and technique used are easy to evaluate, issue determination, question formulation, comparison question selection and qualification and some of the actual pre-test questions all depend upon the case facts the subject's answers during the pre-test interview, both of which are unique to every examination. Therefore, the more experience the examiner has with similar cases and/or types of subject's, the more accurate any given examination or analysis is likely to be. While general polygraph experience is useful, experience in the specific type of case is better. Examiners whose practice has been limited or dominated by screening examinations would have a more difficult time justifying how such experience contributes to expertise in criminal examinations and *visa versa*.

Finally, there is now a very simple method that all examiners can use to demonstrate polygraph competency, at least with regard to the analysis of polygraph recordings. The Marin Protocol, of course, is an evidentiary procedure intended to minimize errors and bias using paired testing. In order to qualify, examiners must first pass a simple chart analysis competency examination where

they blindly score 100 sets of verified polygraph charts and achieve an accuracy rate of 90% or better. This competency examination is independently monitored by the Defense Academy of Credibility Assessment (DACCA) and is available without fee to all examiners without regard to training, technique or employer. Since there is no fixed time for completion or travel-to-test requirements, all examiners should endeavor to obtain this qualification. While it still doesn't prove that any given examination was conducted properly, it certainly proves that an examiner is competent to review some other examiner's test. Examiners who lack this qualification should seriously reconsider testifying let alone reviewing another examiner's test. Finally, examiners who claim a unique competency such that they and only they can conduct examinations and/or have their examinations reviewed, should not be conducting polygraph examinations let alone testifying about polygraph.

### Standardization

Try as we might to minimize or remove the clinical aspects, polygraph is, to a large extent, a behavioral science. Variance within and between subjects, even in a laboratory setting, cannot be eliminated or ignored. In addition to standardizing polygraph school curriculum and membership requirements, the APA has also established Standards of Practice that still manage to include different instructional methods and polygraph techniques but all of which today are variants of the standard Reid Control or Comparison Question technique. In those rare cases where it can even be found, the Relevant/Irrelevant technique is limited to screening applications and not likely to be an issue in testimonial situations. Therefore, it should be easy enough for all examiners to comply with the Standards of Practice even though no two examinations will ever be exactly the same.

Directed Lie procedures have an obvious appeal with regard to standardization. Both examiners who use this approach and those who do not must be prepared to clearly articulate the differences between directed and subject selected responses. Obviously, research supporting a Directed Lie Comparison Question examination cannot be used to validate a traditional Reid Probable/Known Lie Comparison Question examination or visa versa. In the same vein, examinations using "comparison questions" that simply evoke a response using surprise, provocation, confusion or calculation cannot cite validity or reliability studies using traditional comparison questions. Finally, since all recognized polygraph techniques agree that Comparison Questions should vary based upon both the issue under investigation and numerous individual subject variables, excessively standardized procedures risk the chance of being discredited because they appear unable to accommodate - or even consider - common sources of error.

While the recording parameters have long been standardized, the instruments themselves have evolved from exclusively analog to exclusively computer and now, at least for Stoelting and Lafayette, to both types of instrument. While each has strengths and weaknesses, examiners should at least be able to explain how the instruments work. While the mechanically disinclined might not be able to fix an analog instrument, he or she should be able to explain how changes in cuff pressure are transmitted into ink pen travel just as the software user can explain the algorithm used to create pixel displays simulating ink pen recordings. While some federal law enforcement agencies specifically prohibit the use of computer scoring algorithms, examiners using them need to be able to explain not only the mathematics but also the research supporting the premises. Simply telling the Court that the algorithms are proprietary and that therefore the examiner doesn't know how they actually work is analogous to examiners claiming to use "special" techniques that no one else would understand. I've even been told there are examiners who maintain that they can only evaluate examinations using computer recordings and are unable to score charts produced by analog instruments since they use "old" technology. Such a position indicates either a complete lack of understanding of instrumental recordings and analysis or a blind dependence on computer scoring algorithms.

## Psychophysiology

Whether testifying under the original Frye or more recent Daubert protocols, a thorough understanding of the psychological theories and physiological response mechanisms is essential. Clearly, degrees or at least successful completion of college level courses in these fields will enhance the examiners credibility when explaining the basis for the psychophysiological detection of deception. Examiners trying to use Cannon's original "Flight or Fight" theory to cover everything will soon discover under cross examination that they need to be prepared to discuss a variety of other theories and most assuredly can be expected to know how various emotional, pharmaceutical, medical and other conditions effect polygraph outcomes.

Finally, testimonial explanations must be made in ways that judges - or juries - can understand. Is there really a sufficient difference between abdominal and thoracic respiratory recordings to justify scoring each as a separate parameter? Is skin conductance or resistance so valid and reliable that it deserves to be double weighted or is it just the easiest for algorithms to describe?

## Technique

At the risk of resurrecting the emotional debate about the superiority of various techniques, examiners should focus on the strength of what techniques have in common rather than the technical differences. While there is a major difference between Relevant/Irrelevant and Control/Comparison question techniques that directly effect validity and reliability, the difference between inclusive and exclusive formulation pales in comparison. While Reid in *The Legal Admissibility of the Polygraph* (1975) may have been the first recognized to have published validity research supporting his technique, the subsequent Utah Technique studies also confirm the soundness of his comparison technique even though the Utah Technique uses exclusive questions. An inference that someone else's validated technique is invalid or so inferior that it shouldn't be accepted is not only wrong but also harms the entire profession. As polygraph appears to be gaining acceptance as indicated by the increases in applications and international use, testimony should focus on examiner competency and procedures and principles that adhere to practices that can be proven to be valid and reliable, not just in common use.

## Examiner bias

Depending upon the situation, examiners may find themselves accused of bias because of their employer or the agency requesting the examination. All examiners should carefully read the articles that have been written about the "Friendly" (Defense) and "Unfriendly" (Prosecution) polygraph examiner and be able to explain how any such spin would be easy to identify from the pre-test, question selection and phrasing as well as the aforementioned objectively demonstrated ability to accurately score polygraph charts (Marin Protocol). Improper practices that directly effect outcomes such as excessively long pre-tests or pre-test interrogations, while perhaps not apparent on the charts, are self-evident when the pre-test is recorded. Certainly, experience, in this case, the length of practice, might reveal unacceptable bias since examiners who predetermine outcomes don't remain examiners for long. However, the easiest and most objective way to demonstrate a lack of employer or requester bias is to show that you are currently providing your services to both sides. Obviously, only examiners with experience can do this but it is not difficult. Most examiners I train, not just regarding polygraph but interviewing and interrogation, have a law enforcement or government background so when they retire or otherwise leave government employment, they usually have no trouble obtaining clients in law enforcement. Establishing a reputation for competency takes longer with private employers and the defense since you have to overcome a presumption, usually unfounded, that you are merely using polygraph as a psychological prop or excuse to interrogate. Nevertheless, I strongly recommend the effort since having clients representing both sides is a self-evident indication of objectivity.

## Future Areas for Testimonial Acceptance

In its landmark review of polygraph (2002), the National Research Council concluded that specific issue polygraph using control/comparison techniques has a diagnostic validity and reliability equal to that of many commonly used medical diagnostic tests. Examiner education and training requirements have become standard. As cited above, differences in techniques are relatively minor when one considers their overall effect on accuracy. Nevertheless, it is still the rare exception to have polygraph testimony admitted in court. When the basis for disallowing polygraph is cited, it almost always involves either an impossible standard of accuracy or objection that cannot be adequately researched. Thus, polygraph, unlike other behavioral sciences, must not only be valid and reliable, but infallible. While it can be argued that the profession should use standardized procedures and practices, any variance in training, technique or any accommodation for the uniqueness of each case and subject should not be used as proof of a lack of standardization. While New Mexico under *Dorsey* has had nearly thirty years of polygraph admissibility using a simple procedure for pre-trial evaluation, many testimonial venues simply maintain that polygraph testimony would take up too much time and/or become a battle of the experts while the record clearly indicates otherwise. Some Courts have simply determined that polygraph testimony would usurp the province of the jury or, at the very least, overwhelm the jurors with a false sense of scientific credibility. While there are studies using mock juries and anecdotal evidence indicating that juries are in fact highly suspicious of polygraph and most forms of expert testimony, it is very difficult to debate these contentions. Perhaps the most challenging is the notion, stated by U.S. Supreme Court Justice Clarence Thomas, that "the jury is the lie detector." Here, of course, validity, reliability, acceptability, competency, probative value and every other consideration are simply irrelevant.

My very first testimonial experience happened when I was only 23 years old and had barely completed the required supervised internship of 200 criminal cases, hardly a monument of experience. I spent long hours reviewing my physiology, my psychology and what research on validity and reliability was available at the time. Although my results were admitted, I was thoroughly embarrassed when the first question I was asked under cross-examination was whether I could point out the person I had examined in the hearing room - something I was unable to do due to time and changes in appearance! Needless to say, I have never forgotten that and many other lessons that can only be learned from the experience of testifying.

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