



FORWARD TO THE JANUARY POLYGRAPH DIGEST

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A unique characteristic of the American Association of Police Polygraphists (AAPP) is that its members often use the polygraph in a *forensic* setting. The term forensic refers to scientific processes and activities in legal settings and proceedings. We believe diagnostic polygraphs conducted in criminal investigations are forensic activities. Screening polygraphs are not likely to be forensic examinations because they are not normally conducted in response to a specific crime incident. Additionally, screening examination techniques have less scientific support than diagnostic techniques. Although diagnostic and screening examinations are conducted with different objectives, their differences are not always appreciated. Examiners and their clients may not grasp the importance of various decision theoretical priorities for test sensitivity and specificity or the effects of false-positive or false-negative errors.

Despite this difference, portions of diagnostic and screening polygraphs can be introduced as evidence in legal proceedings. Legal proceedings include criminal trials and hearings, civil trials or lawsuits, administrative hearings, arbitration hearings or any process of appearing before a court of law where a decision is made about an argument or claim. Legal debates may ensue over parts of *any* diagnostic or screening PDD examination.

Polygraph test results are usually not admissible in most criminal cases, but they can focus the investigation. Our referring professionals, agencies, legislators, and communities all expect scientific and professional integrity in both testing contexts. Most examiners work for someone, who usually works for (and answers to) someone else. That person to whom the examiner must answer, may ask him or her to explain and justify the examination, including field practices and results. Having knowledge of *evidenced-based practices* (EBP) can help examiners defend of their work.

EBP emerged around 1992 in the form of evidenced-based medicine, and its ideas quickly pervaded many other disciplines including nursing, dentistry, psychology, library sciences, information sciences, education, and forensics. The basis of EBP is that professional practices are: 1) based on research studies that measure a level of effectiveness and 2) that these research studies meet some particular standards. EBP uses data collected through scientific research for making decisions. It does not attempt to support the test results

and professional conclusions using expert opinion without evidence. It does not rely on 'gut responses' alone, dogma, or anecdotal case studies without evidence of generalizability. And, EBP is not the mere reliance on research, but the reliance on research that informs professionals and the public of known and predictable level of effectiveness. A germane example of EBP is the 2012 American Polygraph Association decision that all examinations should be conducted using validated techniques meeting minimum standards.

Were a judge, prosecutor, treatment provider, defense attorney, supervision officer, administrator or supervisor to ask you to justify, explain or support your examination choice or practice how would you respond? Use of EBP would mean that the evidence has already been examined, published, and is reasonably well accepted and understood. Could you rely on EBP? Or would you be forced to provide a dogmatic response without evidence?

Fledgling professions rely on dogma initially until they build a body of supportive evidence. Once that body of evidence exists, however, continued reliance on dogmatic practices is unwise and untenable. The PDD profession cannot rely on dogma and expect to be taken seriously by courts and related fields of science. We leave you to consider what Joseph P. Bono, President of the American Academy of Forensic Sciences, wrote in his President's Message in: *Academy News, American Academy of Forensic Sciences, 2010; 40(5):3.*

"The six most questionable words used to formulate the justification for a conclusion by any forensic analyst are 'BASED ON MY TRAINING AND EXPERIENCE...' Training and experience in the absence of demonstrative evidence mean little to me. A reputable examiner should be able to show the decision makers — the prosecutor, the defense attorney, the judge and the jury — the basis for a conclusion which is understandable and can be justified by data or images. If the examiner resorts [only] to the 'trust me, I know what I am doing logic,' a red flag should immediately go up: DON'T TRUST HIM!"

Of themselves, there is nothing inherently wrong with the words "based on my training and experience." The problem arises when these words are *the only* basis for

asking others to accept our work and results. An EBP explanation will trump a dogmatic defense every time. Fortunately, the PDD profession has attracted the attention and efforts of scientific thinkers throughout its existence. Our work is supported by a growing and formidable basis of scientific evidence at the theoretical and pragmatic level.

Many of those reading this forward know how lonely and uncomfortable it is being on the witness stand or on the “hot seat” in front of a superiors. Being inadequately prepared for the questions you encounter is stressful, and using dogma to support your answers is increasingly unlikely to make your evidence persuasive. Being knowledgeable and conversant with EBP will assuage some of that anxiety, and will better support your decisions. EBP will ultimately make each of us more valuable and effective witnesses and professionals.

Evidence is the core principle of EBP. It makes or breaks a case, persuades or influences a decision maker and can be the tangible tool that triers of the fact use to decide case outcomes. Evidence resulting from a diagnostic PDD examination should fall under the subcategory of *scientific evidence*. Scientific evidence is a type of evidence that either supports or refutes a scientific hypothesis and follows the scientific method.

The validity of scientific evidence is argued using research. The strength of the scientific evidence is that research is measured using statistical analysis, the language of empiricism. PDD examiners who have a basic understanding of the ideas and vocabulary of scientific testing and normative data will inevitably be perceived as more competent. The evidence they present will be regarded as more credible than those who have not obtained training and education in these areas.

Law-enforcement examiners are also aware of the problems associated with unreliable evidence. All evidence may be subject to criticism and attacked during a legal proceeding, whether reliable or not. Prevailing during those proceedings is often a matter of presenting a well-organized basis of information to support the evidence. In those rare circumstances when it becomes necessary to present polygraph evidence in a legal proceeding, using validated techniques will ease the task of locating and organizing the available evidence. The professional examiner and expert witness will be prepared to answer scientific questions.

We disagree with arguments that field examiners are not scientists or experts and are therefore not required to testify about the scientific basis of the test results. We hold the conservative view that field PDD examiners should be prepared to answer questions as experts. Examiners not prepared to answer scientific questions are at risk of losing credibility. And the evidence they present is at increased vulnerability to criticisms of unreliability. Although the primary concern in any legal proceeding are the rights of the individual accused and other members of the community, there is an important secondary concern to the polygraph profession. Successful criticisms may affect the usefulness of the test with future cases. We caution that any examination and any PDD examiner can be subjected to scrutiny

that reflects on the professionalism of the individual examiner and the profession. We also caution against any impulse to suggest that results and accuracy of some types of polygraph tests are unimportant (e.g. screening examinations.) Such claims would be concerning to the communities and agencies we serve, and such a position would be of questionable usefulness to the profession.

The goal of this *Digest* is to better prepare you to defend your decisions. In this edition you will find a collection of articles for the “nuts and bolts” field examiners who ply their trade thousands of times a week in the search for the truth. The backdrop for the selection of this focus is the present activity in the United States Congress looking at the formation of an oversight agency or commission to better regulate the forensic sciences. PDD should be included in that effort and our exclusion will increase resistance to PDD testing. This can result in increased criticisms that PDD testing amounts to pseudoscience, not worthy of funding or administrative support. We oppose that view. We prefer to continue to educate ourselves, our legislators, the community, and professionals in related scientific and forensic disciplines about the validity and scientific basis for PDD testing. The most concerning alternative to EBP – professional practices not supported by scientific evidence – amount not only to reliance on dogma instead of evidence, but also the practice of experimenting on members of the public.

For those of you who consider your work *forensic*, this journal is for you. We have written and selected materials to help you understand the basic ideas that underlie an EBP approach to diagnostic and screening PDD testing. We refresh your knowledge of scientific terms and offer a primer on using normative data to describe error estimates in diagnostic settings. We know many forensic PDD examiners are experienced professionals who have learned the power of clear procedures to make order out of chaos. This helps protect us from uncertainty, doubt, and vulnerability during times of difficulty. Those experienced professionals are also sometimes a few years distant from their academic education and may have forgotten some mathematical and scientific concepts. This material will be new to some and a refresher to others. Coming to terms with EBP is a matter of learning and remembering a core set of ideas, vocabulary and procedures that will keep us anchored to the evidence.

Embracing EBP will help us in the “nuts and bolts” activities of interviewing, investigating, and reporting information and test results to the referring professionals, agencies and communities we serve. Some of the information here is procedural, and some is instructive information to be used as reference material. Each is highly useful, though in different ways. Whether the information is procedural or theoretical, we have attempted at every point to describe the relevance of the material to the PDD examination. All who conduct examinations in the field are practical-minded people who will continue to rely on tangible and procedural standards of practice. Those standards will be most useful when they are based on evidence. Our sincere belief is that becoming familiar with EBP will not only better prepare us to defend our work, but it will also make us better examiners.