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Committee E52 on FORENSIC PSYCHOPHYSIOLOGY

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ASTM Introduction

ASTM International is a standards development organization (SDO) that provides an open forum for the creation of voluntary, consensus standards for industry around the world. In existence since 1898, ASTM currently houses more than 130 technical committees and a standards portfolio of over 12,000 technical documents. ASTM standards development relies on a multi-level review system in which technical experts are actively engaged in dialogue throughout the development process, largely through an electronic balloting system and bi-annual committee meetings.

Committee E52 Background

In 1998, an ASTM partnership with the polygraph community was initiated and Committee E52 on Forensic Psychophysiology came into existence. Currently, the committee brings together approximately 80 members from private practice, law enforcement and government. At present, the committee has 14 published standards within 7 technical subcommittees. Development of additional documents is also underway, specifically in the areas of Instrumentation and Psychophysiological Detection of Deception (PDD).

This committee is open to any interested party in the field of Forensic Psychophysiology. You are invited to review the list of E52 active standards below to gain a better understanding of the technical documents that currently exist within this profession and the new documents being developed. For additional information on Committee E52 and ASTM membership, please visit the ASTM website at www.astm.org and the E52 Committee homepage at <http://www.astm.org/COMMIT/E52.htm>.

E52 Active Standards

E52.01 on Research

- [E1954-05 Standard Practice for Conduct of Research in Psychophysiological Detection of Deception \(Polygraph\)](#)

Document Scope:

1.1 This practice covers essential and recommended elements in the design, conduct, and reporting of research on psychophysiological detection of deception (polygraph). Analog and field research are addressed separately.

1.2 This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

E52.02 on Instrumentation

- [E2063-00 Standard Practice for Calibration and Functionality Checks Used in Forensic Psychophysiological Detection of Deception \(Polygraph\) Examinations](#)

Document Scope:

1.1 This practice provides guidelines for calibration and instrumentation (both analog and computerized systems) used in the psychophysiological detection of deception (verification of truth). As a minimum, such instrumentation shall simultaneously record an individual's respiratory, electrodermal, and cardiovascular activity. Analog polygraphs shall be calibrated by the psychophysiological detection of deception (PDD) examiner, manufacturer, or factory-authorized individual. Computerized instrumentation shall be calibrated by the manufacturer or factory-authorized individual. The PDD examiner or factory-authorized individual shall perform functionality checks to ensure instrumentation is operating properly.

1.2 This practice does not prohibit additional components which may be offered as supplemental measurements of physiological change. Additional recording components (such as movement sensors) shall meet the manufacturer's specifications.

E52.03 on Quality Control

- [E2031-99\(2004\) Standard Practice for Quality Control of Psychophysiological Detection of Deception \(Polygraph\) Examinations](#)

Document Scope:

1.1 This practice establishes essential and recommended procedures for the conduct of quality control for a Psychophysiological Detection of Deception (PDD) examination.

E52.04 on Examiner Education and Training

- [E2000-05 Standard Guide for Minimum Basic Education and Training of Individuals Involved in the Detection of Deception \(PDD\)](#)

Document Scope:

1.1 This guide covers the minimum basic education and training required for an individual involved in the psychological detection of deception in using instruments which measure physiological responses in the areas of breathing or respiration, changes in electrodermal activity, and changes in pulse rate and relative blood pressure.

1.2 For additional standards promulgated by ASTM Committee, see Practice E1954.

- [E2064-00 Standard Guide for Minimum Continuing Education of Individuals Involved in the Psychophysiological Detection of Deception \(PDD\)](#)

Document Scope:

1.1 This guide establishes the minimum amount of advanced continuing education required for individuals engaged in psychophysiological detection of deception (PDD) examinations.

- [E2162-01 Standard Guide for Minimum Continuing Education of Individuals Involved in Psychophysiological Detection of Deception \(PDD\) Testing of Sex Offenders](#)

Document Scope:

1.1 This guide establishes minimum advanced continuing education training required for individuals engaged in psychophysiological detection of deception (PDD) testing of sex offenders.

- [E2163-01 Standard Guide for Minimum Training Requirements for Examiners Conducting Psychophysiological Detection of Deception \(PDD\) Testing of Sex Offenders in Treatment, Probation or Other Similar Programs](#)

Document Scope:

1.1 This guide establishes the minimum training required for PDD examiners engaged in the psychophysiological detection of deception (PDD) examinations for applications with individuals in treatment, or probation or parole for sex offenses.

E52.05 on PDD

- [E2062-00 Standard Guide for PDD Examination Standards of Practice](#)

Document Scope:

1.1 This guide establishes essential and recommended elements in the procedures for the conduct of a psychophysiological detection of deception (PDD) examination.

1.1.1 Other unique PDD applications are addressed separately.

- [E2080-00 Standard Guide for Clinical Psychophysiological Detection of Deception \(PDD\) Examinations for Sex Offenders](#)

Document Scope:

1.1 This guide establishes essential and recommended elements in procedures for conducting psychophysiological detection of deception (PDD) examinations for clinical applications with individuals in treatment, on probation or parole for sex offenses. This includes, but is not limited to, Post-Conviction Sex Offender Testing.

1.2 This guide ensures that such examiners for this application are specifically trained in issues associated with supervision and treatment of sex offenders.

1.3 This guide is not intended to encompass any other PDD examinations.

- [E2229-02 Standard Practices for Interpretation of Psychophysiological Detection of Deception \(Polygraph\) Data](#)

Document Scope:

1.1 This practice establishes procedures for the systematic interpretation and analysis of Psychophysiological Detection of Deception (PDD) data.

1.2 Any test data analysis procedure used shall be correctly matched to the PDD examination format. Examiners shall use evaluation methods for which they have been formally trained.

1.2.1 Acceptable test data analysis procedures are those published in refereed or technical journals, and for which published replications of the procedures have confirmed their efficacy.

- [E2324-04 Standard Guide for PDD Paired Testing](#)

Document Scope:

1.1 Standard guide for the derivation of quantitative assessments of the credibility of proposed witness testimony through the application of established statistical principles to combinations of PDD examination results, and for the utilization of such assessments in the interests of justice (The Marin Protocol)

1.2 This standard describes circumstances in which proven statistical principles, applied to PDD results, can reliably quantify the trustworthiness or untrustworthiness of witness testimony, and

1.2.1 Delineates requirements necessary to effect the generation and practical use of such results, including:

1.2.1.1 Criteria regarding witnesses to be examined,

1.2.1.2 Criteria for determining facts upon which witnesses are to be examined,

1.2.1.3 Certification of examiners eligible to conduct examinations,

1.2.1.4 Combinations of results which support strong inferences, and

1.2.1.5 Appropriate uses to which strong inferences can be put.

1.3 Courts and others responsible for adjudicating questions of fact may choose whether and when to invoke paired PDD testing.

1.3.1 This guide expresses the rights and obligations of all participants in order to best serve the interests of justice when it is invoked.

1.3.2 Paired PDD testing must not be invoked in any case in any jurisdiction where to do so would violate the laws of that jurisdiction.

1.3.3 Adherence to these guidelines ensures that the conclusions reached will be valid.

1.4 This standard is directed to the proposed testimony of witnesses in criminal, civil, administrative and family court litigation, regarding factual claims, where

1.4.1 It is unlikely that the witnesses could be honestly mistaken, and

1.4.2 The facts in dispute are such that the case may hinge on whom the trier of fact believes; whenever,

1.4.3 Witnesses on opposite sides of a case offer contradictory testimony.

1.4.4 Two or more witnesses testifying for one side offer mutually corroborating testimony.

- [E2386-04 Standard Guide for the Conduct of PDD Screening Examinations](#)

Document Scope:

1.1 This guide establishes essential and recommended elements in the procedures for the conduct of a psychophysiological detection of deception (PDD) screening examination.

E52.06 on Terminology

- [E2035-05 Standard Terminology Relating to Forensic Psychophysiology](#)

Document Scope:

1.1 This is a compilation of terms and corresponding definitions used in forensic psychophysiology. Legal and scientific terms that generally are understood or defined adequately in other readily available sources may not be included.

1.2 A definition is a single sentence with additional information included in notes. It is reviewed every five years, and the year of the last review or revision is appended.

1.3 Definitions identical to those published by another standards organization or ASTM committee are identified with the abbreviation of the name of the organization or the identifying document and ASTM committee; for example, ASME is the American Society of Mechanical Engineering.

1.1 Definitions of terms specific to a particular field are identified with an abbreviation.

E52.07 on Ethics

- [E2065-02 Standard Guide for Ethical Requirements for Psychophysiological Detection of Deception \(PDD\) Examiners](#)

1.1 The purpose of this guide is to establish ethical requirements for all individuals engaged in forensic psychophysiological detection of deception (PDD).

1.2 All individuals engaged in the practice of conducting PDD examinations shall adhere to this guide.

E52 Work Items Under Development

[WK5775](#) Standard Guide for Instrumentation, Sensors and Operating Software Used in Forensic Psychophysiological Detection of Deception (Polygraph) Examinations

[WK5078](#) Standard Guide for the Paired Testing Oversight Panel

[WK5709](#) Practice for Audio/Visual Recording of PDD Examinations