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Standard for a Quality Assurance Program in Bloodstain Pattern Analysis



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Foreword

This standard was revised, prepared and finalized as a standard by the Bloodstain Pattern Analysis Consensus Body of the AAFS Standards Board (ASB). The initial draft document was developed by the Bloodstain Pattern Analysis Subcommittee of the Organization of Scientific Area Committees to provide guidance to agencies providing bloodstain pattern analysis services for the establishment and maintenance of such a program. A quality assurance program is necessary to ensure the quality of the work product.

It is recognized that Bloodstain Pattern Analysis is practiced by individuals employed by a variety of agencies offering forensic services. For accredited laboratories that already have an established quality assurance program, this document is not intended to supplant the quality standards set forth by accreditation, but may assist these agencies in the refinement of their program relative to BPA. In addition, this document is intended to provide the framework for other agencies in the development of a BPA quality assurance program.

All hyperlinks and web addresses shown in this document are current as of the publication date of this standard.

Keywords: *Bloodstain pattern analysis, quality assurance.*

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Standard for a Quality Assurance Program in Bloodstain Pattern Analysis

1 Scope

This document provides requirements for establishing and maintaining a documented quality assurance program in bloodstain pattern analysis to forensic service providers. A quality assurance program is necessary to ensure the quality of the work product that comes from any forensic service provider.

2 Normative References

There are no normative reference documents. Annex A, Bibliography, contains informative references.

3 Terms and Definitions

For purposes of this document, the following definitions apply.

3.1

agency

An entity such as an individual, a law enforcement department, a private company, or a government or private laboratory that in this context provides BPA as one of its functions.

3.2

assessment

A method used to evaluate an individual's knowledge, skills and abilities in BPA.

3.3

shall

Used to indicate that a provision is mandatory.

3.4

should

Used to indicate that a provision is not mandatory, but recommended as good practice.

4 Requirements

4.1 Personnel and Qualifications

The agency shall have written specifications defining the minimum education, training and experience required of an individual in order to perform BPA. (Refer to SWGSTAIN BPA: *Guidelines for the Minimum Educational and Training Requirements for Bloodstain Pattern Analysts*^[4])

4.2 Standard Operating Procedures

The agency shall have written and approved standard operating procedures (SOPs) regarding BPA. Items that should be included are: (Refer to SWGSTAIN BPA: *Guidelines for Developing Standard Operating Procedures for Bloodstain Pattern Analysis*^[2])

- a) scope;
- b) equipment, materials and reagents;
- c) procedures;
- d) report generation, review and approval;
- e) calculations;
- f) limitations;
- g) safety;
- h) references; and
- i) SOP Approval.

4.3 Case Files

The agency shall have written procedures for the content and maintenance of BPA case files.

4.4 Assessments

The agency should have in place a documented program of ongoing skill assessment of the bloodstain pattern analyst. This should include, but is not limited to:

- a) proficiency testing; (Refer to SWGSTAIN BPA: *Guidelines for Proficiency Testing in Bloodstain Pattern Analysis*^[3])
- b) courtroom testimony evaluation.

4.5 Corrective Action

The agency should establish written procedures for the identification of deficiencies and the implementation of corrective actions to address such issues as administrative, analytical, interpretive or skill-assessment errors.

4.6 Safety

The agency shall maintain a documented health and safety program. This should include health and safety practices consistent with relevant safety organizational standards for the occupational exposure to bloodborne pathogens and occupational exposure to hazardous chemicals used in BPA, as well as awareness of the physical hazards that may occur in the course of the analysis.

4.7 Facilities

The agency shall have a documented program that ensures the facility is secured from unauthorized access and maintained in a condition that minimizes the risk of contamination of evidence.

4.8 Evidence Control

The agency shall have a documented evidence control system to ensure the integrity of physical evidence.

4.9 Equipment and Reagents

(Refer to SWGSTAIN BPA: *Guidelines for Developing Standard Operating Procedures for Bloodstain Pattern Analysis*^[2])

4.9.1 The agency shall have a documented program to monitor the maintenance and calibration of equipment or instrumentation that affect the accuracy and validity of the BPA.

4.9.2 The agency shall have in place documented procedures for the testing of reagents utilized in casework to ensure their functionality.

4.10 Validation

The agency should have written procedures that require all new techniques be validated prior to their use in BPA applications. (Refer to ANSI/ASB Standard 072, *Standard for the Validation of Procedures in Bloodstain Pattern Analysis*^[1])

4.11 References

It is recommended that the agency cite and maintain all reference material used to create the Quality Assurance Program.

5 Conformance

The agency shall have in place a documented program for the periodic conformation assessments of BPA case files to ensure their adherence to the agency's Quality Assurance program regarding their content and maintenance.

Annex A (informative)

Bibliography

- 1] ANSI/ASB Standard 072, *Standard for the Validation of Procedures in Bloodstain Pattern Analysis*, First Edition, 2019 ¹

SWGSTAIN documents can be downloaded from <https://www.nist.gov/topics/forensic-science/bloodstain-pattern-analysis-subcommittee>:

- 2] Scientific Working Group on Bloodstain Pattern Analysis (SWGSTAIN): *Guidelines for Developing Standard Operating Procedures for Bloodstain Pattern Analysis, April 2009*
- 3] Scientific Working Group on Bloodstain Pattern Analysis (SWGSTAIN): *Guidelines for Proficiency Testing in Bloodstain Pattern Analysis*
- 4] Scientific Working Group on Bloodstain Pattern Analysis (SWGSTAIN): *Guidelines for Minimum Educational and Training Requirements for Bloodstain Pattern Analysts*

¹ <http://www.asbstandardsboard.org/published-documents/bloodstain-pattern-analysis-published-documents/>



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