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## **Standards for a Quality Assurance Program in Bloodstain Pattern Analysis**



**DRAFT DOCUMENT**

# Standards for a Quality Assurance Program in Bloodstain Pattern Analysis

**Keywords:** bloodstain pattern analysis, quality assurance

**Abstract:**

A quality assurance program is necessary to ensure the quality of the work product. This document is designed to provide guidance to agencies providing bloodstain pattern analysis services for the establishment and maintenance of such a program.

**Forward**

A quality assurance program is necessary to ensure the quality of the work product. This document is being put forth by the Organization of Scientific Committees Bloodstain Pattern Analysis Subcommittee (OSAC-BPA) to provide guidance to agencies providing bloodstain pattern analysis services for the establishment and maintenance of such a program. The OSAC -BPA expects to develop additional documents to provide further guidance in select topic areas addressed in this summary treatise.

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.

This document originated as a product of the Scientific Working Group on Bloodstain Pattern Analysis (SWGSTAIN)<sup>1</sup>

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<sup>1</sup> “Scientific Working Group on Bloodstain Pattern Analysis: Guidelines for a Quality Assurance Program in Bloodstain Pattern Analysis”, SWGSTAIN.org

# Table of Contents

Scope.....	3
Definitions and Terms.....	3
Goals and Objectives.....	3
Personnel and Qualifications.....	4
Standard Operating Procedures.....	4
Case Files.....	4
Assessments.....	4
Corrective Action.....	4
Safety.....	5
Facilities.....	5
Evidence Control.....	5
Equipment and Reagents.....	5
Validation.....	5
Audits.....	5
References.....	6

## 1. Scope

This document is intended to assist agencies in the development or refinement of a quality assurance program as it relates to Bloodstain Pattern Analysis.

The agency shall establish and maintain a documented quality assurance system appropriate to BPA. The quality manual should address, but is not limited to:

- 1.1 Goals and Objectives
- 1.2 Personnel and Qualifications
- 1.3 Standard Operating Procedures
- 1.4 Case Files
- 1.5 Assessments
- 1.6 Corrective Action
- 1.7 Safety
- 1.8 Facilities
- 1.9 Evidence Control
- 1.10 Equipments and Reagents
- 1.11 Validation
- 1.12 Audits
- 1.13 References

## 2. Definitions and Terms

2.1 Terms - The following terms are meant to convey the meanings specified:

**Shall** – Done without exception

**Should** – Expected to be done (*unless otherwise documented for non-compliance*)

**Recommended** – Appropriate, but not mandatory

2.2 Definitions

**Agency** – Any entity – such as an individual, a law enforcement department, a private company, or a government or private laboratory – that provides BPA as one of its functions.

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

## 3. Goals and Objectives

The agency should address the goals and objectives of the quality assurance plan for the BPA program.

#### **4. 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 OSAC BPA Education and Training documents)*

#### **5. Standard Operating Procedures**

The agency shall have written and approved standard operating procedures (SOPs) regarding BPA. Items that should be included are: *(Refer to OSAC BPA Standard Operating Procedures document)*

- 5.1 Title
- 5.2 Scope
- 5.3 Equipment, Materials and Reagents
- 5.4 Procedures
- 5.5 Report Generation, Review and Approval
- 5.6 Calculations
- 5.7 Limitations
- 5.8 Safety
- 5.9 References
- 5.10 SOP Approval

#### **6. Case Files**

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

#### **7. 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:

- 7.1 Proficiency Testing *(Refer to OSAC BPA Proficiency Testing document)*
- 7.2 Courtroom Testimony Evaluation

#### **8. 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.

## **9. 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.

## **10. 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.

## **11. Evidence Control**

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

## **12. Equipment and Reagents**

*(Refer to OSAC BPA Standard Operating Procedures document)*

12.1 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.

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

## **13. Validation**

The agency should have written procedures that require all new techniques be validated prior to their use in BPA applications. *(Refer to OSAC BPA Validation document)*

## **14. Audits**

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

## 15. References

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

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