Scientific Working Group on Bloodstain Pattern Analysis: Recommended Terminology

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Scientific Working Group on Bloodstain Pattern Analysis (SWGSTAIN)

Objective

This document provides a recommended list of terms to use when teaching, discussing, writing, or testifying on bloodstain pattern analysis.

Introduction

The Scientific Working Group on Bloodstain Pattern Analysis (SWGSTAIN) comprises bloodstain pattern analysis (BPA) experts from North America, Europe, New Zealand, and Australia. SWGSTAIN provides a professional forum in which practitioners in BPA and related fields can discuss and evaluate methods, techniques, protocols, quality assurance, education, and research. SWGSTAIN's ultimate goal is to use these professional exchanges to address substantive and operational issues within the field of BPA and to build consensus-based, or "best practice," guidelines for the enhancement of the discipline of BPA.

Statement of Purpose

SWGSTAIN has developed and defined a list of recommended terminology for use in BPA. In developing this list, SWGSTAIN reviewed terminology in use across BPA.

Recommended Terminology

Accompanying Drop

A small blood drop produced as a by-product of drop formation.

Altered Stain

A bloodstain with characteristics that indicate a physical change has occurred.

Angle of Impact

The acute angle (alpha), relative to the plane of a target**,** at which a blood drop strikes the target**.**

Area of Convergence

The area containing the intersections generated by lines drawn through the long axes of individual stains that indicates in two dimensions the location of the blood source.

Area of Origin

The three-dimensional location from which spatter originated.

Backspatter Pattern

A bloodstain pattern resulting from blood drops that traveled in the opposite direction of the external force applied; associated with an entrance wound created by a projectile.

Blood Clot

A gelatinous mass formed by a complex mechanism involving red blood cells, fibrinogen, platelets, and other clotting factors.

Bloodstain

A deposit of blood on a surface.

Bloodstain Pattern

A grouping or distribution of bloodstains that indicates through regular or repetitive form, order, or arrangement the manner in which the pattern was deposited.

Bubble Ring

An outline within a bloodstain resulting from air in the blood.

Cast-Off Pattern

A bloodstain pattern resulting from blood drops released from an object due to its motion.

Cessation Cast-off Pattern

A bloodstain pattern resulting from blood drops released from an object due to its rapid deceleration.

Directionality

The characteristic of a bloodstain that indicates the direction blood was moving at the time of deposition.

Directional Angle

The angle (gamma) between the long axis of a spatter stain and a defined reference line on the target**.**

Drip Pattern

A bloodstain pattern resulting from a liquid that dripped into another liquid, at least one of which was blood.

Drip Stain

A bloodstain resulting from a falling drop that formed due to gravity.

Drip Trail

A bloodstain pattern resulting from the movement of a source of drip stains between two points.

Edge Characteristic

A physical feature of the periphery of a bloodstain**.**

Expiration Pattern

A bloodstain pattern resulting from blood forced by airflow out of the nose, mouth, or a wound.

Flow Pattern

A bloodstain pattern resulting from the movement of a volume of blood on a surface due to gravity or movement of the target**.**

Forward Spatter Pattern

A bloodstain pattern resulting from blood drops that traveled in the same direction as the impact force.

Impact Pattern

A bloodstain pattern resulting from an object striking liquid blood.

Insect Stain

A bloodstain resulting from insect activity.

Mist Pattern

A bloodstain pattern resulting from blood reduced to a spray of micro-drops as a result of the force applied.

Parent Stain

A bloodstain from which a satellite stain originated.

Perimeter Stain

An altered stain that consists of the peripheral characteristics of the original stain.

Pool

A bloodstain resulting from an accumulation of liquid blood on a surface.

Projected Pattern

A bloodstain pattern resulting from the ejection of a volume of blood under pressure.

Satellite Stain

A smaller bloodstain that originated during the formation of the parent stain as a result of blood impacting a surface.

Saturation Stain

A bloodstain resulting from the accumulation of liquid blood in an absorbent material.

Serum Stain

The stain resulting from the liquid portion of blood (serum) that separates during coagulation.

Spatter Stain

A bloodstain resulting from a blood drop dispersed through the air due to an external force applied to a source of liquid blood.

Splash Pattern

A bloodstain pattern resulting from a volume of liquid blood that falls or spills onto a surface.

Swipe Pattern

A bloodstain pattern resulting from the transfer of blood from a blood-bearing surface onto another surface, with characteristics that indicate relative motion between the two surfaces.

Target

A surface onto which blood has been deposited.

Transfer Stain

A bloodstain resulting from contact between a blood-bearing surface and another surface.

Void

An absence of blood in an otherwise continuous bloodstain or bloodstain pattern.

Wipe Pattern

An altered bloodstain pattern resulting from an object moving through a preexisting wet bloodstain.