

Deadline of Submission of Comments: 8-Sep-25

Document Number: ANSI/ASB Std 032 e2

Document Title: Standard for a Bloodstain Pattern Analyst's Training Program (Second Edition)

Comment #	Text Line # (s)	Document Section	Type of Comment	Current Document Wording	Proposed Revision	Revision Justification	Final Resolution
			E-Editorial T-Technical				
1	General	N/A	T	See comments to right.	N/A	The current document does a decent job about discussing various tasks within BPA (e.g., documentation) as well as foundational concepts (e.g., fluid dynamics); however, it fails to provide meaningful guidance on training individuals on some of the most critical aspects of the work. I encourage the BPA consensus body to wait until a methodology standard is issued before finalizing the training standard. Once a methodology standard is issued, the training standard can be compared to the methodology to make sure everything is appropriately covered. As of right now, the training document as proposed does a good job of discussing the basic principles of BPA but it falls very short in providing guidance on the training program to actually do the work and report classification and reconstructive conclusions.	Reject. Due to the length of time necessary for a standard to be completed and published, it is not reasonable to delay the training standard for what could be an undetermined time frame.
2	16	3.1	E	active practitioner definition	change the title for "active practitioner" to "bloodstain pattern analyst" and delete the definition used for bloodstain pattern analyst OR revise their definitions to make them more distinguishable	it is unclear what the difference between an active practitioner and a bloodstain pattern analyst is. They seem to describe the same person.	Accept with modification. Deleted active practitioner and rewrote bloodstain pattern analyst
3	16-19 and 27-30	3.1 and 3.4	E	Definitions for "active practitioner" and "bloodstain pattern analyst"	Remove "active practitioner".	The definitions are functionally identical. The wording in "bloodstain pattern analyst" implies they are currently doing this work, not just have done it in the past (e.g, "conducts," "directs," "interprets," "reaches," and "issues." See comments to section 5.3.3.	Accept.
4	40-42	4.1	E	"The bloodstain pattern analyst shall have a Bachelor's degree..."	None	Excellent. Keep this.	Accept.
5	41	4.1	E	The bloodstain pattern analyst trainee shall have a Bachelor's degree that includes coursework trigonometry, biology, physics, and chemistry from an accredited institution	Depending on the intent: "The bloodstain pattern analyst trainee shall have a Bachelor's degree in a science including college coursework in trigonometry, biology, physics, and chemistry from an accredited institution." OR remove the degree requirement and say "The bloodstain pattern analyst trainee shall have college coursework in trigonometry, biology, physics, and chemistry..."	As written, the degree could be in anything, like art, which doesn't require science classes, as long as the student has taken the college level courses listed. So it isn't clear if the degree requirement is for something that would require those classes (which would be a science degree) or if the requirement is really just that college level courses in those subjects are taken.	Reject. A bachelor's degree with the required coursework is acceptable.
6	46	4.2.2	T	At the completion of training, the bloodstain pattern analyst trainee shall comply with the requirements in 4.2.	At the completion of the training program, the bloodstain pattern analyst trainee shall have demonstrated proficiency in all requirements outlined in Section 4.2. OR The training program shall ensure that, upon completion, the bloodstain pattern analyst trainee has fulfilled all knowledge and performance criteria detailed in Section.	Circular reference. Section 4.2 is the parent section that already outlines the training requirements. Saying a trainee must "comply with the requirements in 4.2" after completing training is redundant—if they've completed the training as described in 4.2, they've already complied with it. Its like saying: "Once you've finished the requirements, you must comply with the requirements." Using the word "demonstrate" rather than comply is better too since the mentor is looking for the ability to perform the BPA tasks, not for the ability to comply with the training manual.	Accept with modification. Revised to "4.1"
7	47	4.2.2	E	"requirements in 4.2."	"requirements in 4.1."	I think the statement is pointing back to the educational requirements in 4.1. If not, it makes no sense for a statement in 4.2.2 to refer to a header (which is what 4.2 is).	Accept.
8	55	4.2.5	E	The trainee shall be able to describe important milestones in the history of BPA including:	The trainee shall be able to describe important people and milestones in the history of BPA including:	added "people" for clarity as it applies to the list that follows	Accept.
9	55	4.2.5	E	The trainee shall be able to describe important milestones in the history of BPA including	The trainee shall be able to discuss important milestones in the history of BPA including	I think it may be better for "discuss". Just my opinion	Reject. "Describe" is sufficient for the reader to understand what is meant.

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10	56	4.2.5a	E	Piotrowski	Dr. Eduard Piotrowski or Experiments/publications by Dr. Eduard Piotrowski	as written, the requirement is vague and potentially ambiguous. Suggest including at least the entire name and consider adding relevant references listed in a bibliography at the end of the document.	Accept.
11	57	4.2.5b	E	Balthazard	Dr. Victor Balthazard or Experiments/publications by Dr. Victor Balthazard	as written, the requirement is potentially ambiguous. Suggest including at least the entire name and consider adding relevant references listed in a bibliography at the end of the document.	Accept.
12	58	4.2.5c	E	Kirk	Dr. Paul Kirk or Experiments/publications by Dr. Paul Kirk	as written, the requirement is potentially ambiguous. Suggest including at least the entire name and consider adding relevant references listed in a bibliography at the end of the document.	Accept.
13	59	4.2.5d	E	MacDonnell	Herbert Leon MacDonell or Experiments/publications by Herbert Leon MacDonell	as written, the requirement is potentially ambiguous. Suggest including at least the entire name and consider adding relevant references listed in a bibliography at the end of the document.	Accept.
14	60	4.2.5e	E	first training workshop	The first formal bloodstain training course given in 1973	as written, the requirement is potentially ambiguous. Suggest including at least the entire name and consider adding relevant references listed in a bibliography at the end of the document.	Reject. This is a topic that the trainee should know
15	60	4.2.5	E	"first training workshop"	remove	This should be covered already under MacDonell.	Accept with modification: Document revised to include under HM
16	63	4.2.5	E	SWGStain	SWGSTAIN	The acronym has always been all caps.	Accept.
17	64	4.2.5i	E	NAS report	2009 National Academy of Forensic Science Report	as written, the requirement is potentially ambiguous. Suggest including at least the entire name and consider adding relevant references listed in a bibliography at the end of the document.	Accept.
18	73	4.2.6	E	"theory/conclusions. (see comment)"	remove "(see comment)"	I cannot find this "comment" in the document. Either remove the reference or add the intended "comment" to the standard.	Accept.
19	73	4.2.6.e	E	"see comment"		there is no comment	Accept.
20	79	4.2.7	E	"white blood cell,"	"white blood cells,"	To be consistent with line 78 which says "red blood cells".	Accept.
21	93-99	4.2.7 d)	T	"factors affecting the drying time of bloodstain patterns: 1) air flow, 2) humidity, 3) ambient temperature, 4) substrate temperature, 5) substrate characteristics, 6) volume of blood."	Remove all of the sub-points	I'm not sure there are published studies which have actually evaluated all of these factors. We may have an idea of how a specific factor may affect the drying time; however, our initial "ideas" have routinely been incorrect after we research it. I don't think it is appropriate for a standard to require trainees to "describe" things which we actually have not researched ourselves.	Reject. These factors have been demonstrated to affect drying times of blood. Refer to the Epstein Laber BPA workbook, Appendix 3 (page 100)
22	110 - 115	4.2.8 i)	T	"characteristics of blood in motion: 1) drop formation, 2) accompany drop, 3) wave cast-off, 4) distribution of blood drops, 5) oscillation."	add "6) progression of droplet appearance at impact" and "7) droplet formation cascade."	These are different than the other points and also critical for a trainee to understand. While 7) appears to be the same as 1) they are in fact different. Point 1) is generally about drops formed due to gravity. The suggested point 7) is fundamentally different because it addresses the cascade which occurs to form the droplets which are associated with scatter stains	Accept with modification. "but not limited to" has been added to 4.2.7.
23	123	f	E	road mapping	add definition for road mapping or add a reference to the book/article that mentions it	This seems like a reference to a specific technique. Suggest adding a definition and/or reference to a bibliography to the book or article that mentions it, or remove since the items already listed are a part of road mapping	Accept with modification: updated to include bullet points under road mapping
24	129 - 130	4.2.11	E	"The trainee shall be able to demonstrate and describe the documentation process and mathematical principles related to BPA, including;"	"The trainee shall be able to demonstrate and describe the documentation process and mathematical principles related to BPA, which will be used by the trainee in casework including;"	It doesn't make sense to require (based on the use of "shall") to "demonstrate" a technique which their agency is not actually using in casework. The suggested wording here is simply to reflect that only those techniques which are included in the agency's procedures are those which need to be "demonstrated." I think an awareness of other techniques is good.	Reject. This would be an agency determination.

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25	131	4.2.11	T	"a) methods for the measurement of individual bloodstains;"	"a) criteria for the selection of stains to be used; b) methods for the measurement of individual bloodstains;"	It's critical that trainees understand how to actually select the appropriate stains since bad stains will produce bad data.	Accept.
26	153	4.2.14	T	"The trainee shall be able to describe how to classify bloodstain patterns."	"The trainee shall be able to demonstrate using features of bloodstain patterns to classify the patterns and to understand the limitations of the classification process including: a) bloodstains with limited features, b) bloodstains with features which are shared by multiple mechanisms, c) limited case-specific information."	Ultimately this single line needs to be significantly expanded and made more than just having the trainee "describe" the process. "Describe" also does not line up with the "demonstrate" as stated for reconstructive conclusions in section 4.2.21. Up to this point, the training document only deals with background information. This point is the first time an actual conclusion in BPA is addressed. It seems reasonable for a section dealing with classification of bloodstains to provide more meaningful guidance than currently worded and to actually require the trainee to properly perform the work to come up with classifications.	Accept.
27	158 - 164	4.2.18	T	"The trainee shall be able to recognize and describe the role other forensic analyses available to BPA including..."	add "d) other investigative documentation (e.g., video from body worn cameras)."	I regularly request this video and it has proven to be invaluable in evaluating the initial appearance of the bloodstains at the scene.	Reject with modification. "but not limited to" has been added. The suggestion example is not analysis. It is evidence.
28	175	4.2.19 (b) (2) (ii)	E	"and"	remove "and"	The word "and" implies that item (c) is still part of item b), but structurally and conceptually, (c) is a new primary item under 4.2.19, parallel to (a) and (b)—not part of (b)'s sublist. The "and" used on line 151 is the correct usage.	Accept.
29	180	4.2.21	T	"The trainee shall be able to demonstrate the reconstruction of event(s) using BPA."	"The trainee shall be able to demonstrate how to develop and evaluate reconstruction events using BPA, including: a) developing multiple opposing reconstructive scenarios for evaluation, b) developing scenarios to evaluation based on specific case questions, c) developing conclusions which address multiple aspects of the incident: 1) movement, 2) position and orientation, 3) sequencing, 4) time components."	This is similar to the concerns with section 4.2.14. Reconstructive conclusions are the second type of conclusion issued by BPA. This standard must provide significantly more guidance on how to train someone beyond the current wording. At times, these are the most critical and impactful conclusions issued by analysts and also the ones most clouded by uncertainty.	Accept.
30	203	5.2.1	E	remote analysis	add definition for remote analysis	It is not clear what is meant by remote analysis	Accept with modification. e.g. list has been removed.
31	210	5.3.1	T	"A forensic service provider shall establish a documented mentorship program."	"A forensic service provided shall establish a documented mentorship program. For FSSPs which have a bloodstain pattern analyst conducting and overseeing the training program, a separate mentorship program is not necessary as long as the training program meets all of the requirements contained within this section."	The proposed wording makes sense if the trainee is not working in a laboratory with a training program taught by a practicing analyst. However, if the trainee is at laboratory or other agency which has an established training program which is conducted and overseen by a practicing analyst, there really is no need for the FSSP to create a completely separate mentorship program. They can do all of it internally. The current wording does not really allow for this option.	Reject. Even if the the agency use an outside provider for the mentorship program , it would be addressed in their QA manuals.
32	213	5.3.3	T	The mentor may designate an active practitioner to assist with the mentorship program	Add: The designated active practitioner shall only assist in the BPA sub-disciplines in which they are qualified and experienced as a practitioner	The statement is too broad as it stands. Its narrow for the mentor, and if the mentor needs to assign someone else to help, that person should be as qualified or better. This could help with assurance that the trainee doesn't have a qualified mentor on the books, but then most of the training farmed out to someone no qualified.	Reject with modification. Active practitioner was changed to BPA analyst. The assigned analyst has already met the requirements for being a BPA
33	218	5.4.2	E	The mentor shall unmask the case data in a manner consistent with current casework methodologies to allow for the mentee to develop their own interpretations and opinions.	change unmask to mask	Shouldn't you want to mask, not unmask completed cases? During training, a trainee should evaluate a real case without knowing the scenario's origin or expected conclusions (masked). Once the trainee submits their interpretation, the mentor should "unmask" the case by showing the known mechanisms. The way I read the statement as is, it sounds like the mentor has to find a real case and make sure the data is "unmasked" (able to see). I think it should be "masked"	Accept with modification: added "mask/"

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34	268	6.1	T	A trainee shall be evaluated on all components of a Bloodstain Pattern Analysis (see Section 7).	need to come up with a component list of BPA.	Section 7 is a list of training program components, not components of an analysis. This suggests that Section 7 will list the components of a Bloodstain Pattern Analysis like stain recognition etc. It lists assessment methods—not the components of BPA itself like section 4.2 does. Maybe refer to section 4.2 instead?	Accept with modification. 6.1 was rewritten to be more complete.

Deadline of Submission of Comments: 22-Dec-25
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			E-Editorial T-Technical				Final Resolution
1	38-39	4.2.1	E	"At the completion of training, the bloodstain pattern analyst trainee shall comply with the requirements in 4.1"	Update to section number(s) for the correct training requirements the trainee is expected to comply with upon completion of their training, rather than educational requirements the trainee is expected to have prior to beginning training. OR If applicable, move this information into 4.1 as a subsection to clarify timing of expected compliance with educational requirements. See also suggestions in comment #6 from Comment Resolutions Round 1. Updating to section 4.1 subsequent to Round 1 did not resolve the problem that the commenter outlined.	Current wording of section 4.1 outlines the educational requirements to begin a training program. According to the Scope (line 4), "This document provides minimum pre-training educational requirements". Section 4.2.1 references compliance with these educational requirements "at completion of the training period," however the trainee would not qualify to have even begun the training unless they had already met the requirements of section 4.1. If the educational requirements outlined in 4.1 are actually expected to be completed by the end of training, rather than as a prerequisite, then suggest moving the information in 4.2.1 into section 4.1, and update Scope to remove "pre-training". OR If the educational requirements <i>are</i> a prerequisite to beginning the training program, then instead of 4.1, should this be referring to compliance with requirements outlined in sections 4.2.3-4.2.25, or something else?	Accept with modification. Removed "pre-training" from scope and "that includes" from 4.1
2		4.2.13	E/T	effect of fabric movement during interaction with blood.	rephrase to: "resultant vector effect"	Propose revising it to "resultant vector effects," as this wording may more accurately reflect the combined influences arising from fabric-blood interactions during movement.	Reject: This is a subcategory of fabric movement.
3		4.2.18	E		include trace evidence	Trace evidence may also be encountered on BPA evidence (e.g., blood and fibre)	Reject: 4.2.18 says "not limited to"
4		4.2.19	E	IR, ALS, blood enhancement chemicals	Infrared (IR) photography, alternate light sources (ALS), and blood enhancement chemicals (e.g., luminol and leuco crystal violet)	Suggest to write in full for clarity	Accepted
5		4.2.22	E	a) written methods; and b) verbal methods.	•written methods, including reports and documentation prepared for court proceedings or interview summaries; •verbal methods, such as delivering testimony during court proceedings and presenting findings in interviews or official meetings.	The revision is added because it clarifies and expands on the specific contexts in which trainees must demonstrate their communication skills, particularly in legal and court-related scenarios.	Rejected: It is already clear what is meant.
6		5.7.1 and 5.7.2	E		switch the order 5.7.2 then 5.7.1	Suggests that the mock courtroom scenario assessment can be discussed first in 5.7.1, followed by a review of actual courtroom testimony in 5.7.2 for better flow and readability.	Rejected: It is already clear what is meant.
7	278	6.1.1	E	"A trainee shall be evaluated on all components of the agencies training program (see section 7)."	Update to "agency's"	Possessive use of the word agency is correct	Accepted
8		6.1.1	E	A trainee shall be evaluated on all components of the agencies training program	A trainee shall be evaluated on all components of the agency's training program.	"...the agencies training program" is incorrect because it's missing the possessive marking (apostrophe). It reads like multiple agencies are sharing one program	Accepted