

26-Oct-20

ASB Standard 140, Standard for Training in Forensic Human Mitochondrial DNA Analysis, Interpretation, Statistical Evaluation, and Reporting

#	Section	Ty	Comments	Proposed Resolution	Final Resolution
5	Foreword	E	Verify OSAC group who drafted this document	correct OSAC subcommittee name	Accept. Updated to all three OSAC Subcommittees that worked on the document
4	2.2		Although standard 22 is listed as normative, it is not clear that the relevant areas of standard 22 that are not in this standard still apply. For instance, do the assessment and retraining for competency testing apply in this document as they apply in standard 22?	Consider adding an assessment and retraining section to the document or provide further clarity in section 2.	Reject: The definition of a normative reference means that the entire Std 022 applies to this document. See section 4.2.7 of Std 022.
7	several sections of 4	T	"comparison" is listed in several sections of the requirements but is not included in the Foreword, Scope or Title as part of the goals of this training and is missing from several requirements	consider adding "comparison" to other sections and other requirements (e.g., 4.3.1, 4.3.2, 4.4.3 a) for completeness	Accept. See title, Foreword, 1, 4.2.1, 4.31, 4.3.2, 4.4.3.a., 4.4.1. and 4.4.3.
10	3 and several sections of 4	T	it seems that the term "analysis" is being used to refer to the technical procedures for generating a DNA sequence for interpretation; since this word is used in the forensic DNA world to mean many different things, clarity of the use of the word would be very helpful.	define "analysis" in context of mtDNA or use different language to provide clarity	Accept with modification; added parenthetical to first use of term analysis in 4.2.1; term commonly used in mito DNA laboratories; separate definition in section 3 not needed.
12	4	T	Supplementing ASB 22 is a critical task for every sub discipline of DNA. But such a task should avoid a checklist approach (an approach that is a weakness of ASB 22) and instead develop a meaningful training program that includes well defined units with learning objectives, reference materials and the means for measuring competency in the unit and, ultimately, a means for measuring competency at the completion of the program	Provide more detail in each section, as well as specific recommended readings (which should be periodically reviewed for updates). For further guidance on selecting and weighing reference materials, the following are useful: NCFS, Views of the Commission Scientific Literature in Support of Forensic Science and Practice, https://www.justice.gov/archives/ncfs/file/786591/download NCFS, Views of the Commission Regarding Identifying and Evaluating Literature that Supports the Basic Principles of a Forensic Science Method or Forensic Science Discipline, https://www.justice.gov/archives/ncfs/file/839716/download	Reject: The goal of Standard 022 and the standards under its umbrella is not to develop overly particularized curricula. The laboratory must retain flexibility in keeping current with scientific research and developments; therefore, an overly prescriptive curriculum is detrimental to achieving the end of ensuring analyst competency. Further, and as stated in Appendix A, "[t]he following bibliography is not intended to be an all-inclusive list, review, or endorsement of literature on this topic. The laboratory shall develop a list tailored to its specific needs."
13	4.2	T	The training program should include a unit on ethics. Std 22 makes passing mentions of "ethics", but its lack of detail fails to provide real guidance to labs and practitioners attempting to structure and/or strengthen their training programs. Thus, it is incumbent upon this std to perform this critical task	The standard should require an ethics unit developed using the following resources: 1) NCFS, Recommendation to the Attorney, General National Code of Professional Responsibility for Forensic Science and Forensic Medicine Service Providers, https://www.justice.gov/archives/ncfs/page/file/839711/download 2) Thompson, WC. 2009. Beyond bad apples: Analyzing the role of forensic science in wrongful convictions. Southwestern University Law Review (37): 971-994.	Reject: Standard 022 addresses ethics. This comment will be taken under advisement for revising Standard 022.
14	4.2	T	The training program should include a unit on legal issues, including disclosure and testimony. Std 22 fails to address these issues; thus, it is incumbent upon this std to perform this critical task	The knowledge-based portion of the standard should address the following: 1) <u>Disclosure requirements</u> . This section should include training on Brady v. MD and case law interpreting Brady. E.g.: In re Brown, 17 Cal.4th 873 (1998) a case that was reversed for the failure of the crime lab to turn over a preliminary drug test result. The Massachusetts lab scandals: Confronting the new normal of mass error in criminal justice. https://injusticetoday.com/the-massachusetts-lab-scandals-confronting-the-new-normal-of-mass-error-in-criminal-justice-5b3e4687bb7c , Morin G. 2017. Judge reverses murder conviction saying crucial DNA information not disclosed. The San Diego Union-Tribune. http://www.sandiegouniontribune.com/news/courts/sd-me-dna-evidence20171024-story.html Thompson, WC. 2009. Beyond Bad Apples: Analyzing the role of forensic science in wrongful convictions. Southwestern University Law Review (37): 971-994. The unit should also include the National Commission on Forensic Science, Pretrial Discovery in Forensic Evidence Cases Policy Recommendations. https://www.justice.gov/archives/ncfs/page/file/880241/download 2) <u>Testimony</u> . This section should address the following: Roles and responsibilities of the courtroom participants. Demeanor and actions that should be expected of an expert witness. Court rulings that impact admissibility of forensic evidence in legal proceedings, such as the main holdings of key cases such as Melendez-Diaz and Daubert. Terminology associated with legal proceedings and related concepts. How expert witnesses should maintain the limits of their expertise while on the witness stand. Trainees should be exposed to past errors and the impact of the errors on the criminal justice system, for example, this coverage of the revelation that highly trained examiners overstated the weight of forensic evidence in testimony for decades, Spenser Hsu, FBI admits flaws in hair analysis over decades, April 2015. https://www.washingtonpost.com/local/crime/fbi-overstated-forensic-hair-matches-in-nearly-all-criminal-trials-for-decades/2015/04/18/39c8d8c6-e515-11e4-b510-962fcfab310_story.html?noredirect=on&utm_term=.d51e4f29d7b2	Reject: Separate testimony and reporting standards are being develop and attempt to address both disclosure and testimony. This comment will be taken under advisement for revising Standard 022.

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15	4.2	T	The training should include a unit on human factors. Std 22 makes passing mentions of "bias", but its lack of detail fails to provide real guidance to labs and practitioners attempting to structure and/or strengthen their training programs. Thus, it is incumbent upon this std to perform this critical task	This unit should include training on contextual and confirmation bias by subject matter experts. The following resources and the resources cited within should be used to develop this unit: National Commission on Forensic Science. Ensuring That Forensic Analysis Is Based Upon Task Relevant Information. December 2015. Thompson W. 2011. What role should investigative facts play in the evaluation of scientific evidence? Australian Journal of Forensic Sciences 43 (2-3): 123-134. Dror IE. 2015. Cognitive neuroscience in forensic science: understanding and utilizing the human element. Phil. Trans. R. Soc. B 370: 20140255 (pp 1-8). Dror IE, Thompson WC, Meissner CA, Kornfield I, Krane D, Saks M, and Risinger M. 2015. Context management toolbox: A linear sequential unmasking (LSU) approach for minimizing cognitive bias in forensic decision making. J Forensic Sci 60(4): 1111-1112.	Reject: Standard 022 addresses bias. This comment will be taken under advisement for revising Standard 022.
16	4.2	T	While there are passing mentions of "quality control" in this document -- primarily with regard to positive and negative controls -- the document fails to address key concepts of a robust quality assurance system and the practitioner's role within that system. More is needed to give meaningful guidance to labs and practitioners.	A quality assurance unit should be included in the training. It should include training on root cause analysis. This unit should include as learning objectives understanding the concepts behind a root cause analysis including: a) The concept of a "just culture" and how it applies to forensic laboratories. b) The concept of "continuous improvement" as it applies to forensic laboratories. c) The value and facets of a quality system. d) The purpose and importance of a root cause analysis. e) The steps in and the qualities of an acceptable root cause analysis protocol. f) Various methods and tools for performing root cause analysis. g) The purpose of corrective and preventative actions and the importance of evaluating their effectiveness. See the National Commission on Forensic Science. 2015. Directive recommendation: Rootcause analysis (RCA) in forensic science and the resources therein for developing this unit.	Reject: Standard 022 addresses quality. This comment will be taken under advisement for revising Standard 022.
17	4.2	T	There needs to be a separate learning objective for limitations and uncertainties in the mtDNA context	Set forth, with specificity, limitations of mtDNA methods and practices to be covered in training	Accepted with modification: include requirement under 4.2.1 that a training program shall include "fundamental principles <i>and</i> limitations".
18	4.2.2	T	Complete discretion is left to the trainer to define the "applicable literature". As mentioned in comment 1, this std should define the applicable literature. Further, the standard should establish minimum qualifications for a trainer, particularly given the vast discretion granted this individual in shaping the training program.	Set forth a recommended list of "applicable literature". Set forth the minimum qualifications for a trainer.	Reject with modification: Section 4.2.2-d was updated. The training program content and reviewed literature is determined by the technical leader and not the trainer. See Std 022 section 4.2.1. The minimum list is defined by Annex A Bibliography.
9	4.2.2	T	unclear why training of laboratory protocols is only limited to comparison; what about the testing and reporting protocols?	require training (and competency) in all of the relevant laboratory protocols associated with mtDNA sequencing	Accept
3	4.4.2			Moot court training should be included within the knowledge based competency section.	Reject: Std 022 covers this aspect of training. See Std 022 section 4.3.2 -b.
8	4.2.2 a	T	it seems the laboratory comparison protocols should be part of the training not just something to review	include use of comparison protocol and training in comparison in other requirements	Accept: Introductory sentence was updated.
1	4.2.3.e	T/E	There is a higher level of contamination seen in MtDNA analysis. Analysts should be made aware if this during the training program.	Consider adding contamination to this section.	Accept: Section 4.2.3-f was added.
2	4.2.3.h	E		Please clarify if the calculation of statistics applies to software being used or of if this is a hand calculation.	Reject: It is not within the scope of this document to add this level of specificity.
19	4.3.2	T	More structure needs to be provided for the documentation component of the training program in order to provide real guidance for labs and practitioners.	"Proper documentation" should be defined, and training on documentation should be developed using the guidance provided by the National Commission on Forensic Science in its Views of the Commission: Documentation, Case Record and Report Contents.	Reject: It is not within the scope of this document to add this level of specificity.
6	4.3.3 d	E	delete "(s)"	"...and reporting protocols and to produce..."	Accept
20	4.4	T	The standard should require that criteria for passing be set out in advance and provide guidance on developing those criteria. More specificity is needed on precise competency goals for topics that are currently presented in checklist form, or excluded altogether, see e.g. comments 2-6.	For example, in assessing competency with respect to legal issues (see comment #3), this standard should require demonstrated understanding of the following concepts: a) disclosure obligations of analysts to criminal justice system stakeholders under the due process clause of the U.S. Constitution; b) state's role in the criminal justice system including obligations of disclosure; c) implications to the case, scientist credibility, and to the forensic discipline of failing to disclose; d) application of relevant provisions to both person specific disclosures and quality process disclosures; e) terminology including, but not limited to, materiality, exculpatory, inculpatory, discovery, exoneration, and good faith; f) ability to answer questions regarding the main holding of key court cases (Brady, etc.) involving disclosure provided in the reading material; g) Ability to recall and apply examples of hypothetical disclosure scenarios; and h) ability to understand and recall the timing requirements for disclosure.	Reject: This comment will be taken under advisement for revising Standard 022.
11	5	T	this statement implies that meeting Standard 22 demonstrates compliancy with this standard	add language to require documentation of compliance with each of the requirements in THIS standard as well	Accept. Section 5 was updated.