

Scientific & Technical Review Panel Final Report for 2021-S-0013 Standard Guide for Post Mortem Examination Photography

Organization of Scientific Area Committees (OSAC) for Forensic Science



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Scientific & Technical Review Panel Members

- Rachael Landrie, Office of the Chief Medical Examiner
- Roger Mitchell, Howard University
- Christopher Plourd, Judge, Superior Court State of California
- Rodney Simmons, Wyoming State Crime Laboratory
- Barbara Spellman, University of Virginia
- David "Ski" Witzke, Foray Technologies (Retired)
- Brad Zoladz, Full Circle Training Solutions

Report Summary:

The Scientific and Technical Review Panel (STRP) for “Standard Guide for Post Mortem Examination Photography” is an independent panel appointed by the National Institute of Standards and Technology (NIST). A STRP is established with a range of experts to consider how well a standard meets the needs of the forensic science, law enforcement, and legal communities, and to recommend improvements to the standards under review. The STRP appreciates the efforts of Keith Mancini, Video/Imaging Technology and Analysis (VITAL) Subcommittee member, while serving as the subcommittee liaison to this STRP during the review process.

The STRP began its review process with a kickoff meeting on April 26, 2021 and concluded with this STRP final report. The panel reviewed the draft standard and prepared comments for the [OSAC VITAL Subcommittee](#).

In a conference call on Friday, June 11, 2021 the STRP committee discussed the changes made to the updated draft “Standard Guide for Post Mortem Examination Photography.” While the STRP understood why some changes were made/rejected, we did not agree with others. More specifically, it was the STRP’s opinion, that some of the changes had the effect of weakening the guidelines in the draft standard.

It is our opinion that this document will be significant to and have a major impact in post mortem examination photography. We also believe that the bar could still be raised in specific areas. For example, in the OSAC VITAL Subcommittee notes, it was stated that the language regarding the use of Camera RAW file format instead of JPG file formats was too specific and that “... jpeg is acceptable for general documentation”. Since photographs of post mortem examinations are deemed “best evidence” as the body cannot be presented in court, the analytical value of the post mortem photographs must provide the best quality possible, so a distinction between “documentation” versus “analytical value” photographs was necessary in section 8.8 Examination Quality Photographs.

The fourth and final STRP discussion was conducted on July 26, 2021, to evaluate the last changes that were recommended for improved clarification. After the final review of the draft standard, there was still dissent about details contained in specific topic areas, such as using a custom white balance versus a flash, which is further described in the Method Description section of the report.

Report Components:

The STRP reviewed this draft standard against OSAC’s *STRP Instructions for Review* which include the following content areas: scientific and technical merit, human factors, quality assurance, scope and purpose, terminology, method description and reporting results. The details below contain a brief description of each reviewed content area and the STRP’s assessment of how that content was addressed in the Draft OSAC Proposed Standard.

1. **Scientific and Technical Merit:** OSAC-approved standards must have strong scientific foundations so that the methods practitioners employ is scientifically valid, and the resulting claims are trustworthy. In addition, standards for methods or interpretation of results must

include the expression and communication of the uncertainties in measurements or other results.

- 1.1 The STRP believes that this document is of scientific and technical merit, and it will have a significant impact in the field of post mortem photography, which is crucial for improving the level of knowledge for post mortem examination photography.
2. **Human Factors:** All forensic science methods rely on human performance in acquiring, examining, reporting, and testifying to the results. In the examination phase, some standards rely heavily on human judgment, whereas others rely more on properly maintained and calibrated instruments and statistical analysis of data.
 - 2.1 The STRP noted that the Human Factors issues were addressed adequately (i.e., placing the case number, placement of L-ruler, camera settings, etc.)
3. **Quality Assurance:** Quality assurance covers a broad range of topics. For example, a method must include quality assurance procedures to ensure that sufficiently similar results will be obtained when the methodology is properly followed by different users in different facilities.
 - 3.1 The STRP believes that the quality assurance issues were addressed, including, but not limited to, reviewing digital post mortem examination photographs to determine if the angle of camera to subject, camera settings such as white balance and exposure, and clarity are sufficient for accurate and reliable analysis, comparison and evaluation. However, it is our opinion that some policy decisions, such as how long photographs must be retained and whether images may be deleted, etc. are subject to jurisdiction authority and outside the scope of this standard.
4. **Scope and Purpose:** Standards should have a short statement of their scope and purpose. They should list the topics that they address and the related topics that they do not address. Requirements, recommendations, or statements of what is permitted or prohibited do not belong in this section.
 - 4.1 The STRP believes the scope and purpose of this draft “Standard Guide for Post Mortem Examination Photography” are appropriate. Moreover, this draft is an excellent first step for creating a set of guidelines for a discipline in which there has never been a consensus standard that provided any advice, recommendations, or directions regarding post mortem examination photography.
 - 4.2 The STRP also believes the bar could still be raised in some areas. We recommend a research and development study be conducted, especially for agencies that are not accredited, to ascertain what practices are currently identified in standard operating procedures (SOP) for agencies at all levels — state, county and local — as well as determine what procedures may be presented as additional "best practices" derived from a consensus of subject matter experts.

- 4.3 Further, the STRP believes additional research and development may help provide better guidelines for “sufficiency” of image quality (i.e., resolution and bit depth) as it relates to the accuracy and reliability of the detection, analysis, comparison and evaluation of bite marks and bruising from other physical injuries inflicted on the subject both pre- and post-mortem photography.
5. **Terminology:** Standards should define terms that have specialized meanings. Only rarely should they give a highly restricted or specialized meaning to a term in common use among the general public.
- 5.1 Overall, the STRP believes the terminology in this draft standard is appropriate, and of vital importance when used in the discussion of post mortem examination photography. After the final review of the draft standard, there was still dissent about some of the terminology contained in the standard. For example:
- 5.1.1 Order of the general photographic documentation. Technically, any initial photograph taken before the body is moved is considered an “as is” photograph. After, “as is” photographs are taken and before the body is cleaned any photos are called “dirty shots” (aka dirty photographs). Further, the guideline already describes cleaning the body and ensuring the next set of photographs are free from blood, body fluids, etc. Therefore, the STRP strongly believes there should be a distinction between “as is” and “dirty” photographs to “clean photographs.”
- 5.1.2 It is our opinion that “as is” photographs (Section 9.1): require merit and should be moved to the terminology section. We also believe that “dirty shots” (aka dirty photographs) should be added to the terminology section as well. These are important terms used in post mortem examination photography. Additionally, the General Photographic Documentation sections 9.1.2, 9.1.3, 9.1.4 and 9.1.5 should lead with “As Is Anterior Overalls”, “As is Head Shots”, “As is Posterior Overalls” and “Additional Dirty photographs as needed”. This will distinguish the “as is” and “dirty” photos from the next section 9.2 and all photos that come after.
6. **Method Description:** There is no rule as to the necessary level of detail in the description of the method. Some parts of the method may be performed in alternative ways without affecting the quality and consistency of the results. Standards should focus on standardizing steps that must be performed consistently across organizations to ensure equivalent results. Alternatively, standards can define specific performance criteria that are required to be demonstrated and met rather than specifying the exact way a task must be done. For example, it may be enough to specify the lower limit for detecting a substance without specifying the equipment or method for achieving this limit of detection.
- 6.1 The STRP believes the method descriptions are consistent with the scope and purpose of the document. The STRP also notes the area below where potential upgrades can be made.

6.1.1 Paragraph 7.6 stipulates that the photographer should “Set the white balance to ‘Flash’.” The STRP believes that most professional photographers will set a custom white balance unless they are specifically using a flash. It is our opinion this line should be modified to read, “Set the white balance to ‘Custom’ unless you are using a flash, and then set the white balance to ‘Flash’.” (Most experienced forensic photographers will agree that flash is one of the most difficult lighting situations to control, especially when photographing wet, shiny, and/or reflective subjects.)

7. **Reporting Results:** Methods must not only be well described, scientifically sound, and comprehensive but also lead to reported results that are within the scope of the standard, appropriately caveated, and not overreaching.

7.1 The STRP believes the statements for reporting results are consistent with the scope and purpose of the draft standard.