

Standard Guide for Crime Scene Photography

*Video/Imaging Technology & Analysis Subcommittee
Digital/Multimedia Scientific Area Committee
Organization of Scientific Area Committees (OSAC) for Forensic Science*



OSAC Proposed Standard

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Prepared by
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Disclaimer:

This document has been developed by the Video/Imaging Technology & Analysis Subcommittee of the Organization of Scientific Area Committees (OSAC) for Forensic Science through a consensus process and is *proposed* for further development through a Standard Developing Organization (SDO). This document is being made available so that the forensic science community and interested parties can consider the recommendations of the OSAC pertaining to applicable forensic science practices. The document was developed with input from experts in a broad array of forensic science disciplines as well as scientific research, measurement science, statistics, law, and policy.

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Standard Guide for Crime Scene Photography

1. Scope

- 1.1. This document is intended to be a general guide outlining best practices for all practitioners of crime scene photography. This includes professionals whose job is specifically limited to photography and those who may only encounter the need to photograph a crime scene occasionally.
- 1.2. In this document, ‘crime scene’ not only refers to scenes involving criminal activity, but may represent non-criminal events including accidents/ collisions of all types, research and experimentation, internal investigations, suicides and suspicious deaths, etc.
- 1.3. This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.
- 1.4. This standard cannot replace knowledge, skills, or abilities acquired through education, training, and experience and is to be used in conjunction with professional judgment by individuals with such discipline-specific knowledge, skills, and abilities.

2. Referenced Documents

2.1. ASTM Standards

E3148 - Standard Guide for Postmortem Facial Image Capture

E3115 - Standard Guide for Capturing Facial Images for Use with Facial Recognition Systems

3. Terminology

3.1. Definitions

- 3.1.1. **RAW** – A digital camera or scanner file format, usually proprietary, for minimally processed digital image data. [ASTM E2916-18]
- 3.1.2. **Normal lens, n**—a lens designed to approximate the field of view of the human eye without magnification or reduction. [ASTM E2916 – 13]

4. Summary of Practice

- 4.1. Selection of equipment
- 4.2. Managing digital images
- 4.3. General crime scene photography
- 4.4. Photographing living persons
- 4.5. Photographing vehicles

5. Significance and Use

- 5.1. This guide is intended to increase consistency between and among forensic photography providers due to the evidentiary and documentary value provided by photographs during many types of investigations.
- 5.2. This standard provides photography guidelines for general crime scenes, collisions, and persons to better allow organizations to develop training programs and in-practice protocols specific to their needs yet adhere to best practices.
- 5.3. This guide is not intended to address all potential scene types and conditions, nor does it supersede requirements of accrediting or certifying bodies.

6. Equipment

6.1. Recommended Minimum

- 6.1.1. Camera - Single Lens Reflex (SLR) or Mirrorless Interchangeable Lens Camera (MILC)
- 6.1.2. Lenses covering normal to wide angle fields of view, and macro capabilities
- 6.1.3. Storage media cards
- 6.1.4. Flash unit
- 6.1.5. Scale / rulers
- 6.1.6. Tripod
- 6.1.7. Flashlight
- 6.1.8. Shutter release remote control, or at minimum, a camera capable of self-timing

- 6.1.9. Off-camera flash sync cord (3 feet), or wireless trigger
- 6.1.10. Spare batteries for camera, flash, and any other equipment
- 6.1.11. Lens cloth

6.2. Additional Recommended Equipment

- 6.2.1. Gray card
- 6.2.2. Focusing rails
- 6.2.3. Barrier filters
- 6.2.4. Alternate Light Source (ALS)
- 6.2.5. Articulating support
- 6.2.6. Copy stand
- 6.2.7. Off-camera flash sync cord (6 feet)
- 6.2.8. Polarizing filter
- 6.2.9. Ring flash
- 6.2.10. Flash diffuser
- 6.2.11. Angle finder / leveling device
- 6.2.12. Black cloth

7. Deletions of Photographs

- 7.1. Original crime scene images should not be deleted by the operator. All photographs, including poor quality images or unintended images, should remain part of the case file.
- 7.2. All photographs should be part of the case file, whether or not they are captured with the photographer's primary camera or any other camera, such a back-up camera, cell phone camera, or point-and-shoot device.

8. Storage of Photographs

- 8.1. Crime scene images are scene documentation that may be introduced as evidence. It is the responsibility of the organization to maintain all photographs so they are available for the intended purposes.
- 8.2. The organization shall be aware of all local, state, and federal laws that regulate the manner, duration, and maintenance for evidentiary images; and should have policies in place that comply with those measures.

8.3. Digital photographs should be adequately backed up to prevent loss and back-ups properly maintained to prevent degradation.

9. General Crime Scene Documentation

9.1. There are a number of pre-photography tasks that should be considered prior to photographing a scene. See the appendix in section 13 for additional information.

9.2. A case identifier should be the first image captured and shall contain at a minimum the following information:

9.2.1. Organization

9.2.2. Case/Lab Number if available

9.2.3. Photographer's name

9.2.4. Location of incident or location of where photographs were captured if different

9.2.5. Date

9.2.6. A standardized form may be used for this purpose but a photograph of any document containing the above information satisfies this requirement.

9.3. Long Range/Overall

9.3.1. Following the case identifier, the first step of photographic/visual documentation at a crime scene provides an overview of the scene establishing the location of the crime or event. The photographs in this category may be captured using a wide-angle lens.

9.3.2. These initial photographs include addresses, street signs, business names, landmarks, and surrounding areas. Other outdoor photographs in this category may include streetlights, traffic flow, neighboring businesses, parked vehicles in close proximity, presence of surveillance cameras, ingress and egress, etc. Other indoor photographs in the category include photographs of all rooms of interest and transitions to and from rooms, in various perspectives to capture all relevant information.

9.3.3. The in-situ or "as-is" photographs are included in this category to capture the scene as the photographer first encountered it, prior to alterations or the addition of items such as evidence numbers, scene screens, scales or markers.

9.4. Mid-Range / Evidence Establishing

- 9.4.1. Mid-Range photographs provide a view of spatial relationships of items and evidence within a scene, and set the context for close-up photographs of individual items of evidence.
- 9.4.2. Photographs in this category when possible frame the location of the evidence with a known landmark (i.e., fixed object, or other item of evidence within the scene).
- 9.4.3. A proper mid-range photograph will be captured with either reference subjects or subjects to be established at an equal distance from the camera to avoid or minimize the introduction of perspective distortion.

9.5. Close-up

- 9.5.1. Close-up photographs intend to show details on items not typically resolved in mid-range photographs.
- 9.5.2. The subject of these photographs should fill the frame, if its physical attributes permit, in order to maximize the item's resolution.
- 9.5.3. The use of a reference scale may be beneficial under certain circumstances but is not required. Photographs should be captured with a scale anytime the relative size of an item is in question; however, if using a scale, the photographer shall be certain a photograph is first captured without the scale.
- 9.5.4. Avoid or minimize obscuring portions of the subject with the scale.
- 9.5.5. The subjects of close-up photographs shall be photographed in place. Subjects may later be repositioned or relocated outside the scene to improve composition or to include details unavailable while in place.
- 9.5.6. Camera accessories such as macro lenses, diopters, tripods, off-camera flash, reflectors, or techniques such as oblique lighting may also be used to better convey the desired details all while giving consideration to minimizing distortion and controlling depth of field.

9.6. Examination Quality

- 9.6.1. Photographs that may be used for comparison purposes or to calculate precise measurements. Photographs in this category include but are not limited to latent prints, exemplars/standards, other ridge detail impressions, bloodstains, bullet strikes, transfer patterns, tool marks, bite marks, pattern injuries, and tire or footwear impressions.

- 9.6.2. The photographer should consider camera settings such as focal length, aperture, and subject-to-camera distance to minimize distortions and control depth of field.
- 9.6.3. The camera's native ISO, the ISO that the camera's sensor was designed for, should be used to ensure the best color, contrast, saturation, and minimize artifacts from noise.
- 9.6.4. An image format that allows for the highest resolution and least compression available on the camera should be used.
- 9.6.5. Photographs captured in RAW may be captured with a camera setting of RAW+JPEG to benefit multi viewing methods.
- 9.6.6. Use a tripod, copy stand, beanbag or similar camera stability device
- 9.6.7. The subject should fill the frame
- 9.6.8. Place the camera lens perpendicular to the subject
- 9.6.9. At least one of the photographs of an item should show labeling to distinguish it from all other similar items.
- 9.6.10. Be captured without and then with a reference scale (millimeters recommended), traceable to a known standard.
 - 9.6.10.1. The recommended scale for bite mark evidence is an ABFO#2 scale.
 - 9.6.10.2. The recommended scale for footwear is the FBI Bureau Scale or generically known as an "L" scale.
 - 9.6.10.3. The entire scale shall be on the same plane as the subject.
 - 9.6.10.4. For macro photographs, the scale should be placed on the edge of the photograph and not fill any more of the frame than is necessary.
 - 9.6.10.5. The length of the scale should be oriented along the length of the photograph whenever possible.

9.7. Witness Perspective Photography

- 9.7.1. These photographs are captured from the position and orientation of a person or device that witnessed an incident. This can show the views of witnesses, complainants, officers, suspects or surveillance cameras. Photographs in this category are meant to mimic as closely as possible the perspective in question

(person or surveillance camera) and focal length, exposure bracketing, HDR, obstructions to field of view, etc. should be considered.

10. Photographing Living Persons

- 10.1. Persons are photographed for reasons including administrative identification, documentation of injuries, notation of identifying marks, dress, or evidence located on the person or clothing.
- 10.2. For the capture of images for use with an automated Facial Recognition Systems or to be used for manual comparisons refer to ASTM E3115 - Standard Guide for Capturing Facial Images for Use with Facial Recognition Systems.
- 10.3. Photographs of persons may be captured in the field, or another area as designated by the organization. Discretion should be used when photographing persons within view of the public to prevent an unjustified assertion of guilt or involvement.
- 10.4. Identification photographs of the subject captured in the field should use a neutral backdrop such as a wall or other unbiased background. No police-related signs or symbols such as police cars, crime scene tape, or police officers, should appear in the background unless there are safety concerns that require it, as these photographs can be deemed prejudicial.
- 10.5. Similar to a scene, a case identifier should be the first photograph taken, prior to any other photographs. The data sheet should contain the additional information of the subject's name or other identification data.
- 10.6. Capture a full overall body photograph with the subject facing the camera, head-to-toe, including footwear. If subject is wearing garments that conceal identity or characteristics such as hat or sunglasses, be certain to capture images with and without those items.
- 10.7. Capture a close-up photograph of the subject's full face and profiles.
- 10.8. Dividing the subject's body into thirds to continue overall photographs, capture photographs of the upper, middle, and lower thirds from the perspective of the front, the left and right profiles, and the back with the camera perpendicular to the subject.

- 10.9. Capture mid-range and close-up photographs of the backs and palms of each hand, jewelry, footwear, clothing, and identifying characteristics such as tattoos, piercings, and unique skin markings, when necessary.
- 10.10. Capture establishing and close-up photographs of any relevant injuries or evidence. If the photographs of the injuries or evidence will be used for comparison or measurements such as bite marks, puncture wounds, or blood spatter, examination quality photographs described in section 8.6 are also required.
- 10.11. If the subject will be disrobed or photographs are to be captured of areas of the body that would require exposing the genitals, breasts, or other sensitive areas, they should be draped in a professional manner or the identity of the subject at this stage should be shrouded. The subject's dignity should be a primary consideration.
- 10.12. Follow organization Standard Operating Procedures regarding a need or suggestion to have witnesses of same sex as subject present during photography.

11. Photographing Deceased Persons

- 11.1. When photographing a scene involving a death, care should be taken to photograph the decedent as thoroughly as possible. This documentation may include injuries, identifying marks, evidence or personal effects on the body, clothing, medical intervention, as well as the presence or absence of lividity.
- 11.2. Photographs should be taken to document the decedent before they are moved or manipulated in any way. Once those photos are complete, the body can be moved and or repositioned to allow for more thorough photography. It is also important to document the area the body was in once the body has been removed from the scene. Items may have been hidden from view under the decedent, and any bodily fluids left behind may help determine cause and manner of death.
- 11.3. Be sure that a case identifier for the scene has been photographed before beginning to photograph the decedent.
- 11.4. For the capture of images for use with an automated Facial Recognition Systems or to be used for manual comparisons refer to ASTM E3148 - Standard Guide for Postmortem Facial Image Capture.
- 11.5. Before manipulating the decedent in any way, capture establishing photographs of the decedent from various angles to show the body's relationship to the scene in general.

- Once the full body photographs have been taken, take additional pictures of the decedent's face, upper, mid, and lower body, and also mid-range and close-up photographs of any evidence or personal property (in place) that is to be removed from the decedent.
- 11.6. Once the decedent's original state has been documented and all parties are done processing the body, reposition the decedent as necessary to capture photos of the front and back.
- 11.6.1. Capture a close-up photograph of the decedent's face, as well as photos of the upper, mid, and lower body.
- 11.6.2. Capture mid-range and close-up photographs of the backs and palms of each hand, jewelry, footwear, clothing, and identifying characteristics such as tattoos, piercings, and unique skin markings, when necessary.
- 11.6.3. Capture establishing and close-up photographs of any relevant injuries. If the photographs of the injuries will be used for comparison or measurements such as bite marks, bullet wounds, or puncture wounds, examination quality photographs described in section 8.6 are also required.
- 11.7. Once the body has been removed from the scene, capture establishing and mid-range photographs of the area the body occupied to show any items or bodily fluids that may have been obscured by the body initially.

12. Photographing Vehicles

- 12.1. Photographs of vehicles provide documentation of its appearance, identifying information, location and any evidence that may be present on the exterior or interior.
- 12.2. Capture overall photographs establishing the location of the vehicle in the scene or processing area.
- 12.3. At a minimum, overall photographs should include all four sides of the vehicle at 90-degree angles and all four corners. Photograph the top and undercarriage of the vehicle as needed.
- 12.4. Photograph the license plate and Vehicle Identification Number (VIN). The VIN is usually found on the lower corner of the front windshield on the driver's side or on a plate or sticker attached to the inside doorframe of the driver's door. Polarizing filters can assist with reducing reflections or glare on windshield.

- 12.5. Capture overall photographs of damage or evidence on the vehicle.
- 12.6. Capture mid-range and close-up photographs as needed of damage and evidence.
- 12.7. When necessary, photograph the interior of the vehicle, trunk or cargo area, engine compartment as well as any concealed areas such as glove box and center console areas, and under the seats. The use of overall, midrange and close-up images should be applied.
- 12.8. Capture examination quality photographs of evidence as needed as described in section 8.6.

13. Keywords

- 13.1. Crime Scene Photography
- 13.2. Crime Scene Documentation
- 13.3. Deleting Photographs
- 13.4. Image Management
- 13.5. Image Storage
- 13.6. Establishing
- 13.7. Examination Quality Photographs
- 13.8. ABFO#2
- 13.9. FBI Bureau Scale
- 13.10. Perspective Photographs
- 13.11. Photographs of Vehicles

14. APPENDIX

- 14.1. Pre-photo checklist
 - 14.1.1. Format memory card (verify any prior photographs have been properly archived)
 - 14.1.2. Reset counter if applicable
 - 14.1.3. Verify date/time in camera settings is correct
 - 14.1.4. Zero-out exposure compensation
 - 14.1.5. Set ISO – for optimal image capture
 - 14.1.6. Set White Balance
 - 14.1.7. Set Camera Mode



14.1.8. Set Focus Mode

14.1.9. Clean lens