H12 Protocol for Objective Evidentiary Photography in Forensic Anthropology

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After attending this presentation, attendees will understand the need for photographic procedural guidelines and protocols within the field of forensic and biological anthropology and will gain insight into proposed photography protocols that are straightforward and user-friendly to produce objective photographic documentation for a court of law.

This presentation will impact the forensic science community by demonstrating the importance of establishing professional standards for producing objective photographic documentation to visually substantiate scientific findings in a court of law.

This presentation will help attendees gain a better insight into the current limited availability of standardized photographic procedural guidelines and protocols within the field of forensic and biological anthropology and will demonstrate the importance to the forensic community of establishing professional standards for producing objective photographic documentation to visually substantiate scientific findings in a court of law by outlining specific, reproducible, user- friendly photographic procedural guidelines, and protocols.

Currently, there is no generally accepted protocol for the photographic evidentiary documentation of human remains analyzed by the forensic and biological anthropologist in the determination of a biological profile. A detailed analysis of existing photography procedural guidelines and protocols (PG&P) from a variety of forensic professions was conducted and elements of these protocols were synthesized, supplemented, and organized into straightforward and accessible procedural guidelines and protocols specific to the forensic and biological anthropologist that are applicable for the field or the laboratory. Procedural guidelines and a photography protocol for use in the documentation of a biological profile, as well as a digital image processing PG&P were also developed.

The proposed photography PG&P were used to produce digital images at the California State University, Chico Human Identification Laboratory (CSUC-HIL). Photographs were taken of the human skeletal remains of a single individual curated at the CSUC-HIL. [The following equipment was used: a Canon Digital Rebel, 35 mm camera, Canon EFS 18-55 mm normal lens and a Canon 50 mm Compact-Macro EF lens.] In this instance, the more common JPEG photographic format was used, although TIFF is recommended. A ScanDisk Flash 4 GB memory card was used to store all photographs.

Following the laboratory protocol, initial photographs of the human remains were taken with a 35 mm normal lens. All four corners, seals and the inside of the box containing the remains were photographed to ensure chain of custody. The human remains were photographed in anatomical position from head to foot and foot to head. The protocol recommends taking 100% orientation photographs using a 35 mm normal lens. This is achieved by photographing each skeletal element from all possible views to create a permanent visual record of all elements present.

Next, a 50 mm Compact-Macro EF lens was used to photograph all trauma, pathological conditions, and developmental anomalies. Using the 35 mm normal lens and the macro lens, photographs of all taphonomic changes present on all bones, the facial skeleton, maxillae and the mandible were taken. Photographs of the skull/cranium using a 35 mm normal lens were taken in the following order: Frankfurt plane, left and right lateral views, sagittal plane, occipital region, frontal plane, and basilar view. The photographs produce detailed visual and permanent documentation of fragile skull/cranial bones and of longs bones, flat bones and irregular bones.

The PG&P recommended for the photographic documentation of the biological profile incorporates elements of the laboratory procedural guidelines adapted to each skeletal element used in determining ancestry, sex, stature, age at death, and individuating characteristics.

The protocols worked well in the CSUC-HIL; however, the laboratory tables were low and could not be configured to reduce back strain and fatigue. Many photographs are needed to fully document human remains, thus it is important that the photography station facilitate the taking of many photographs. The protocols are straightforward and can be easily followed. Therefore, even if the Forensic anthropologist is not available to attend the recovery of the remains, detailed visual inventory and documentation of the human remains can be established for a court of law.

Forensic anthropologists are called upon to testify as expert witnesses in legal proceedings related to medico-legal death investigations and often use photographs of skeletal elements to document their findings regarding a biological profile. It is anticipated that the recommended photography procedural guidelines suggested here will be expanded and modified as the situation dictates, and as technology and the profession advance. The wide-spread and consistent application of these guidelines and protocols will, hopefully, lead to the speedy adoption of standardized photography procedural guidelines and protocols as part of the established

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methodologies in the profession.

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