F23 Two Forensic Identifications Using the Grin Line Identification Method

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After attending this presentation, attendees will learn the GLID system and its limitations and advantages during the discussion of two actual forensic identification cases.

This presentation will impact the forensic community and/or humanity by demonstrating to members of the forensic community the GLID system and how that system may be the only tool or an adjunct tool for the forensic odontologist to provide additional information to the medical examiner in identification cases within a small closed population group.

The goal of this presentation is to present two forensic identification cases utilizing the Grin Line Identification Method. This presentation is intended to inform the forensic community of the Grin Line Identification Method and its practicality in actual forensic cases.

Background: At the 2005 AAFS meeting in Seattle, a paper was presented on the Practical Application of the Grin Line Identification Method (GLID). The study tested the feasibility and practicality of using GLID in a medical examiner's office. The GLID method uses Adobe Photoshop software to compare antemortem and postmortem photographs. It was stated that GLID could be of value under the following circumstances:

1. A single or very small number of decedents require identification.
2. The decedent(s) having incomplete, inaccurate, or non-existent dental record/radiographs available.
3. Investigators are unable to identify or locate the decedent's dentist.
4. In missing children cases where antemortem photographs are available but where dental records/radiographs may not be compatible with the dentition at the time of disappearance.

Securing a good "smiling" photograph was one of the most important factors of this study. In addition, matching the photographic angulation between the antemortem and postmortem photographs was critical.

Objective:

1. To review the GLID system
2. To look at both the advantages and limitations of the GLID system.
3. To communicate and secure a good antemortem photograph from the NOK.
4. To examine the limitations and advantages of the GLID system.

Methodology:

1. Photograph the postmortem remains using a digital camera with a macro lens.
2. Photograph using varied projection geometry to increase the probability of matching the photographic angle of the antemortem photograph.
3. Obtain a variety of antemortem photographs from the NOK.
4. Obtain a consent form from the NOK.
5. Import both antemortem and postmortem photographs into a laptop via a card reader or scanner set at high resolution.
6. Use Adobe Photoshop to fabricate overlays of maxillary and/or mandibular teeth on the postmortem photograph.
7. Move the postmortem overlay(s) onto the antemortem photograph(s) for comparison using a variety of Adobe tools.

Conclusions: Using the GLID system to aid in the identification of two forensic cases provides the medical examiner with adjunct information. This information is very useful when combined with crime scene information and personal effects in identifying decedents in a small population group. In some cases the GLID system may be the only tool available to the forensic odontologist and, therefore, of value. At other times, it may be used as an adjunct tool when dental records/radiographs are non-existent, inaccurate or absent.

Forensic Odontology, Digital Photographic Comparison, Identification Method

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