F21 Back to the Basics: How the Responder, Trained or Untrained, Can Assist in the Identification of Mass Fatality Victims

Denise M. Giordano, BA, MS, Pathology Support Services, Inc., PO Box 163450, Sacramento, CA 95816; Bryce Autret, MBA*, University of California Davis Medical Center, 4635 2nd Avenue, Research Building #1, Room #3101, Sacramento, CA 95817; George A. Gould, DDS, 6101 Puerto Drive, Rancho Murita, CA 95683; and Brandi J. Schmitt, MS*, University of California, 1111 Franklin Street, 11th Floor, Oakland, CA 95817*

After attending this presentation, attendees will understand the importance of collecting and maintaining images, namely photographs, that can be taken at a moments notice by anyone due to the simple nature of the technique. The images can be stored and further analyzed at a later date through video superimposition.

This presentation will demonstrate a simplistic technique and viable option to use today, in mass disasters such as; catastrophes, air disasters, or acts of terrorism. Especially in non-western societies where dental record keeping as well as advanced technologies like WinID are non-existent, or inaccessible.

The goal of this presentation is to emphasize the need to develop and expand the use of this type of technology to all who assist in disaster recovery protocols. The authors will demonstrate this simple photographic technique and explore the three data sets that validate the concept. Additionally, the data strengthens the scientific basis for the preliminary identification of human remains through the use of video superimposition.

While the comparison of photographic media is widely accepted and shown to be fundamental to the field of forensic odontology, there still remains a need for alternative methods of comparison. Currently most research is focused on modern technologies that rely on advanced software programs, which require training for correct utilization. In light of recent events both natural and man-made, the need for this type of hands-on, individual photographic recording seems evident and very ascertainable. Video superimposition is a simple technique that can be used to assist in the preliminary identification of human remains. For this technique, any type of camera that has the capacity to capture the anterior dentition of human remains can be used.

The initial data set (presented in 2002) utilized 100 photos of unknown male/female subjects compared to a known male and female subject. The second data set (presented in 2005) utilized 100 unknown male/female subjects compared to a known female skull. The third data set utilized 100 unknown male/female subjects compared to a known female subject. Each data set focused on the use of video superimposition as a discrimination technique by focusing on the individualizing patterns of anterior dentition, specifically noting incisal edge configuration, arrangement patterns and morphology. Other discriminating factors, included were: size/wear/trauma/disease/and or identifiable dental characteristics.

As seen in the recent tsunami disaster, family members can produce photographs of their missing loved ones rather quickly. In some places the citizens were the only ones able to respond and dispose of the dead for days. In such instances the average citizen with nearly any photographic media and any photographic implement can take the photographs of the unidentified, which are needed for comparison to those produced by family members. This technique is easily adapted to protocols currently used in disaster recovery and can be easily digitized. Data sets from additional demographic groups are needed to further define the statistics. Additionally, further development of software databases, such as Grin Line ID Systems (GLID), ones that are capable of comparing larger volumes of photographic data are needed. While the more modern and advanced technologies are improved and expanded to other countries, this technique, though simple, can be used right now, today!

Video Superimposition, Mass Fatality Photographs, Dental Identification

 ** Presenting Author*