



## Odontology Section – 2009

### F36 The Identification of The Victims of Flight 5191: Keeping It Simple

Mark L. Bernstein, DDS\*, Department of Diagnostic Sciences, University of Louisville, School of Dentistry, Health Sciences Center, Louisville, KY 40292; and Corky Deaton, DMD\*, 359-C South 4th Street, Danville, KY 40422

After attending this session, attendees will see the benefits of using simple techniques along with a focused and organized approach to victim identification in a mass disaster.

This presentation will impact the forensic community by demonstrating the advantages of simplifying the odontology process in order to expedite identification of mass disaster victims.

On the morning of August 27, 2006, Comair Flight 5191 crashed on takeoff from Lexington, Kentucky bound for Atlanta, Georgia, killing 49 of 50 individuals on board. Only the co-pilot survived. The Chief Medical Examiner of Kentucky activated the mass fatality team of coroners, pathologists, anthropologists, and dentists.

Five local forensic dentists and a dental hygienist assembled at the Medical Examiner's facility in Frankfort, Kentucky, which served as the temporary morgue. The Commonwealth of Kentucky has, as do most jurisdictions, a mass fatality protocol that served as a template for action. Each mass disaster presents unique challenges that necessitate modifications in the management of the identification effort.

The identification process was conducted in the following manner: The labeled, partly charred bodies were autopsied, then in assembly line manner, delivered to the dental postmortem section. Prosectors removed jaws while the dental hygienist served as a clean-handed scribe, taking notes regarding the status of each body and recording findings noted during jaw resection. Resected jaws were placed in labeled bags and transferred to two dentists for photography and charting, following which the jaws were returned to the body bag. A coroner accompanied each body at all times so that no evidence was displaced. Meanwhile, the morgue personnel used the flight manifest to contact victims' families and treating dentists for antemortem records. Since most victims were local residents, area dentists responded rapidly and compassionately. Antemortem records were charted on a form similar to the post-mortem form.

The comparison section by and large did not rely on computers or radiographs. Victims' dentitions were intact. All victims were adults and most had significant dental restorations. Antemortem and postmortem records were divided into males and females (about 20 of each); the remainder were those on whom gender was not determinable. The most characteristic one or two findings in a given postmortem record were targeted and searched for among the antemortem records. Typically, this could be matched in less than three minutes, allowing a tentative identification. The residue of victims that had no characteristic match points because of inadequate antemortem records or non-characteristic findings were identified by making postmortem digital radiographs to correspond with antemortem films.

Dental identifications were made on 47 individuals, most within three days. Two individuals were identified on the basis of medical findings and exclusion of all others. Oral findings at the time of resection were also important in assisting the Medical Examiner with determination of cause of death (fire, smoke inhalation or blunt force injury).

This presentation will focus on the factors that allowed for expedient identifications of the decedents:

- Preplanning and organization,
- Communication between and among sections,
- Size and nature of facility,
- Equipment,
- The concept of "Keeping it simple and focused."

**Simple, Organization, Mass Disaster**