

Operation Noble Eagle: Forensic and Psychosocial Aspects of the Armed Forces Institute of Pathology's Response to the September 11 Pentagon Attack

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The Armed Forces Institute of Pathology (AFIP) responded to the tragic events of September 11 by providing a multidisciplinary team of more than 50 forensic specialists, scientists, and support personnel to the Dover Air Force Base morgue. This team conducted one of the most comprehensive forensic investigations in U.S. history. AFIP staff also deployed to the Pentagon Family Assistance Center to establish a DNA reference collections operation, and to Somerset County, Pennsylvania, to collect tissue specimens recovered from the crash site for DNA analysis. All DNA analysis took place at the Institute's Armed Forces DNA Identification Laboratory, using the talents of over 45 DNA scientists and support personnel.

Our success in identifying 184 Pentagon victims—and all 40 Pennsylvania victims—was due largely to our extensive experience in mass fatality incident processing, and in our ability to use comprehensive pathology assets in other AFIP departments. In all, more than 100 AFIP personnel took part in Operation Noble Eagle. Their work is really a tribute to a “tried and tested” system that we have refined and improved upon over the years.

AFIP and Department of Defense's multidisciplinary, multicasualty incident processing system had its origins following the March 1977 collision between two 747s in Tenerife, Canary Islands, that killed 582. In November 1978, our staff led the medicolegal investigation of the Jonestown, Guyana cult deaths in which 912 died, and in December 1985, we identified the 256 victims (including 248 members of the U.S. Army's 101st Airborne Division), killed in the Gander, Newfoundland air disaster.

These and other major investigations helped prepare our team of veteran forensic specialists to conduct its work following September 11. The September 11 investigation mobilized AFIP assets in many ways. In the immediate hours afterwards, our senior forensic staff worked with Federal Bureau of Investigation (FBI) and local Virginia law enforcement officials to create an effective plan for recovering and identifying the victims while preserving the crime scene evidence. At the same time, personnel from the Office of the Armed Forces Medical Examiner positioned and staged equipment to begin operations at Dover. We called in regional medical examiners from as far away as San Diego, California to participate, along with forensic scientists from Armed Forces DNA Identification Laboratory and oral pathologists from the Department of Oral and Maxillofacial Pathology.

The identification process began with the arrival of recovered

remains at the Dover morgue, where a scanning device searched for the presence of unexploded ordnance or metallic foreign bodies. A computerized tracking system then assigned numbers to each victim for efficient tracking. FBI experts collected trace evidence to search for chemicals from explosive devices and conducted fingerprint identifications. After this, forensic dentistry experts from AFIP's Department of Oral and Maxillofacial Pathology performed dental charting and comparison with antemortem dental records. Finally, full-body radiographs to document skeletal fractures and assist in the identification process were followed by autopsy inspection.

At autopsy, forensic pathologists determined the cause and manner of death. The team's forensic anthropologist (with assistance from anthropologists assigned to the Army's Central Identification Laboratory, Hawaii and the Smithsonian) determined the race, sex, and stature of victims when necessary. A board-certified epidemiologist managed the tracking system for data collected during the autopsy process, and tissue samples were collected for DNA identification and further toxicological studies. Forensic photographers, essential to any forensic investigation, documented injuries and personal effects. Finally, Dover Air Force Base mortuary specialists embalmed, dressed, and casketed remains prior to release to next-of-kin.

Past involvement in mass casualty investigations has taught us that experienced veterans of mass casualty identification operations develop a level of self-protection through “compartmentalization,” which helps them to cope with the stresses of the moment. This “compartmentalization” helps to prevent personal and family issues to migrate into the work environment. However, volunteers and others with limited experience in this area have not necessarily developed this capacity for self-protection. During Noble Eagle, we relied on dozens of personnel, many under age 30, who had never participated in a mass casualty identification operation. As we entered the operation, we believed some would experience signs of stress, and indeed we saw this manifested through mental and physical symptoms.

At Dover, the command structure provided exceptional support through a team of psychiatrists, psychologists, chaplains, social workers, and other monitors who identified and assisted those who had trouble coping. Although the logistics of the operation—including how to house, feed, and outfit our staff for the duration of the operation—were indeed an administrative challenge, it was reassuring to know that this experienced team of mental health professionals was assisting the forensic team in addressing the challenges posed by this environment.

The collection of reference specimens at the Pentagon proved to be a major undertaking, especially as we interacted with the fam-

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This manuscript was received for review June 2002. The revised manuscript was accepted for publication in June 2002.

ilies of the victims. Armed Forces DNA Identification Laboratory's deputy program manager worked closely with the FBI and local law enforcement officials to identify and collect more than 176 family references. The assignment of explaining the DNA process and the purpose of the tests to distraught family members was often made difficult because the emotional effects of the recent loss of a loved one under extremely traumatic conditions affected one's ability to focus on the consent process and make decisions. Our staff saw the full range of emotions at the Pentagon Family Assistance Center—from gratitude to the anger and frustration that typically sur-

face as part of the grieving process. However, many family members realized that by giving blood for DNA analysis, they were doing something important and positive, and doing so helped bring them a degree of closure.

Any type of mass disaster response becomes deeply personal to the workers—and all of us felt especially so on September 11. A framework of psychological support was essential in allowing the AFIP team to respond at its highest physical, mental, and spiritual levels. We will remain grateful for the assistance provided by Dover's mental health professionals.
