



Criminalistics Section – 2005

B81 Operation Iraqi Freedom: AFDIL's Response and Challenges Faced

James M. DiFrancesco, MFS, Patricia Foley, PhD, Allison Heller, BS, Robin McDowell, MFS, Demris Lee, MSFS, David A. Boyer, MFS, James J. Canik, Brion C. Smith, DDS, DoD DNA Registry, 1413 Research Boulevard, Rockville, MD; and Lisa Pearse, MD, and Craig T. Mallak, MD, Armed Forces Medical Examiner's System, 1413 Research Boulevard, Rockville, MD 20850*

The goal of this presentation is to detail the challenges faced processing rush samples, identifying civilians, and maintaining a continuous mass fatality posture during the conflict in Iraq.

This presentation will impact the forensic community and/or humanity by giving the forensic community an awareness of what goes into identifying those who are lost in combat and how a lab has to adapt to challenges during a time of increased and unpredictable caseload.

The opinions and assertions expressed herein are solely those of the authors and should not be construed as official or as the views of the United States Department of Defense or the United States Department of the Army.

The war against Iraq began on March 20, 2003 and the combat phase officially ended on May 1, 2003, with the U.S. military gaining control over the capital city of Baghdad. Currently, hostilities continue to produce a large number of casualties. This presentation will detail the challenges faced processing rush samples, identifying civilians, and maintaining a continuous, high intensity mass fatality posture at the Armed Forces DNA Identification Laboratory during the identification process of Operation Iraqi Freedom (OIF).

The Armed Forces DNA Identification Laboratory (AFDIL) supports the Armed Forces Medical Examiner System by providing DNA analysis on human remains. DNA testing may be performed as the primary source of identification; as a means to supplement other identification methods; and also for re-association of fragmented remains. Currently, one scientific method is required, although 2 or more is preferred, to identify a deceased service member. Any combination of dental records, fingerprint records and/or a DNA comparison to a known reference may be used. Reference bloodstain card samples are maintained by the Armed Forces Repository of Specimen Samples for the Identification of Remains (AFRSSIR). AFRSSIR was established in 1991 for the sole purpose of providing a direct reference sample for DNA comparisons to autopsy specimens in order that no military service member casualty should ever go unidentified. All military personnel and select civilian employees working for the military are required to have a DNA specimen on file at the AFRSSIR.

The 43-day war in Iraq resulted in 142 deaths of Army, Air Force, Marine, Navy, and U.S. civilian personnel. Despite the declared end of combat operations in Iraq, casualties from the U.S. occupation in Iraq continue to be processed through the combined efforts of AFDIL, AFRSSIR and the Armed Forces Medical Examiner's System. Currently, over 805 identifications have been made using a combination of dental, fingerprint and DNA technology. AFDIL has seen an increase in caseload, turn around time, and challenging specimens since the conflict has continued. Currently, DNA analysis is performed on all military deaths regardless of a previous identification by another scientific method. Cases in which there are no other means of identification become top priority and are completed within 72 hours from the receipt of the specimen at AFDIL. To date DNA analysis has been performed on more than 1200 samples with a 99% success rate.

Deaths during Operation Iraqi Freedom (OIF) resulted from combat, homicides, accidents, suicides, and natural causes. Causes of combat deaths during OIF ranged from single gunshot wounds to massive explosions. This resulted in remains that not only varied from fully intact bodies to severely fragmented pieces, but also in the degree of decomposition. At autopsy, every suitable piece of recovered human remains was sampled for DNA testing for either identification, confirmation of identification or in the case of highly fragmented remains, re-association. The reference specimen is retrieved as required from cold storage at AFRSSIR and transported to AFDIL for analysis. A comparison is made between the DNA profiles obtained from the autopsy specimens to the DNA profile obtained from the bloodstain reference. Not all of the victims are military personnel and therefore, do not have a bloodstain reference card on file at AFRSSIR. This requires family references and personal effect to be collected and tested in order to make the identification. The personal effects that are collected are varied and have ranged from toothbrushes to laptops. Many are not suitable for testing.

It is with great pride that the combined efforts of AFRSSIR, AFDIL and AFMES ensure that no service member paying the ultimate sacrifice for their country would remain unknown; but rather expeditious identification, identification confirmation and re-association will be performed to assist in laying that individual to rest. It is hoped that these efforts will provide a sense of closure to the family.

Challenging Samples, Operation Iraqi Freedom, DNA