

**SEPARATION OF INDIVIDUALS IN MASS DIASTERS AND OTHER SETS OF COMMINGLED  
REMAINS: ACQUISITION AND USE OF APPROPRIATE REFERENCE SAMPLES**

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The identification of commingled human remains relies largely on the condition of the remains themselves and the availability of appropriate DNA references. References for autosomal Nuclear Short Tandem Repeat (STR) analysis, which is primarily used in recent death investigations, are obtained from either a premortem self-reference, or from close relatives (e.g. biological parents). Y-STR analysis, relies upon references from direct male relatives. Mitochondrial DNA, which can be utilized for recent samples when appropriate nuclear references are not available, ancient remains, and for biological material that has been damaged by extreme environmental conditions, seeks either a self-reference, or a sample from a maternal relative. When a suitable direct reference or living relative cannot be located, there are other sources for references that are currently used at the Armed Forces DNA Identification Laboratory (AFDIL). This presentation focuses on the different types of DNA that may be used as reference samples, and the methods for which the DNA can be extracted from them. The views expressed in this abstract are those of the author and do not reflect the official policy of the Department of the Army, the Department of Defense, or the U.S. Government.