



## Physical Anthropology Section – 2005

---

### H57 Advances in the Assessment of Commingling Within Samples of Human Remains

*Douglas H. Ubelaker, PhD\*, Smithsonian Institution, Department of Anthropology, NMNH, MRC 112, Washington, DC 20560*

Attendees will gain an understanding of the issues involved in the assessment of commingling in the analysis of human remains.

This presentation will impact the forensic community and/or humanity by offering an overview to the symposium on commingling being organized by others. It will synthesize concepts and issues presented by others in the symposium as well as present the authors' own views on the methodology and logic of such analysis.

This presentation provides an overview of approaches to the study of commingling in the analysis of human remains and discusses the potential for new research.

Forensic anthropological analysis of human remains routinely includes assessment of commingling. Such evaluation is a component of the study of apparent single individuals to assure that remains of others are not included. Commingling analysis is especially important in complex assemblages of multiple individuals and in cases of extreme fragmentation.

Inventory represents an important first step in commingling analysis. Careful inventory can immediately yield evidence of multiple individuals in the form of duplicated bones. Inventory of bone type (including side) can be supplemented with information on age at death, sex, bone size, and robusticity, other aspects of bone morphology and patterns of articulation.

Specialized techniques that have been used to further commingling analysis include ultraviolet light analysis, radiography, serological study, neutron activation, bone weight, trace element analysis, molecular analysis, and bone density study.

If evidence of multiple individuals is detected, it is important to establish the minimum number of individuals represented. This number can be generated through combinations of the procedures summarized above but may under-represent the actual number of individuals present.

Additional research is needed to evaluate the effectiveness of the varied approaches to commingling analysis, in consideration of human variation and the complex taphonomic factors that frequently are involved in the preservation of human remains in forensic contexts.

**Commingling, Human Remains, Forensic Anthropology**