



## Jurisprudence Section – 2011

### E9 What Lawyers Need to Know About Forensic Anthropology

*Douglas H. Ubelaker, PhD\*, Department of Anthropology, National Museum of Natural History - MRC 112, Smithsonian Institution, Washington, DC 20560*

After attending this presentation attendees will understand the fundamentals of forensic anthropology.

This presentation will impact the forensic science community by raising awareness within the Jurisprudence section of the nature of the discipline of forensic anthropology.

Although many think of forensic anthropology as a single discipline, the field actually involves a variety of applications with distinct complex methodology. Forensic anthropologists are routinely consulted on problems relating to human remains and legal issues requiring knowledge of human biological variation. Major areas of applications include recovery of remains, determining if materials are of human origin, and the assessment of age at death, sex, ancestry, living stature, and time since death. Central goals of analysis include personal identification and interpretation of evidence for foul play. Some forensic anthropologists also offer opinions on issues relating to living individuals, especially those involving personal identification and chronological age.

Forensic anthropology is research oriented and closely linked with academia. Certification and diplomate status are available through the American Board of Forensic Anthropology for experienced forensic anthropologists who hold the PhD degree and successfully pass examination. Although forensic anthropologists continue to find traditional employment in universities and museums, many also work within government agencies, medical examiner offices, and specialized programs focusing on the recovery and analysis of human remains.

Methodology varies greatly with each area of application but is closely linked with a substantial published literature. Interpretations are expressed in relation to that literature with appropriate levels of confidence. Although technological advances have become incorporated into recovery efforts, much of this work continues to rely upon traditional archeological techniques. Methods of assessment of age at death, sex, ancestry, and living stature rely extensively on published research conducted on museum collections, clinical data and information gleaned from documented forensic cases. Estimates of time since death have advanced with use of radiocarbon analysis, especially relating to the modern bomb curve.

Personal identification of human remains in forensic anthropology usually involves comparison of antemortem and postmortem radiographs (x-rays). Such identifications result when aspects of skeletal anatomy are observed to be present in both the antemortem and postmortem radiographs and are judged to be sufficiently unique.

Forensic anthropologists are especially useful in contributing to interpretations of foul play. Evidence of peri-mortem (at or about the time of death) alterations can suggest blunt force trauma, gunshot injury, sharp force trauma, or other forms of injury that can prove important in suggesting that foul play was involved. Such alterations have to be distinguished from developmental anomalies and antemortem injuries that the person sustained during their life as well as postmortem alterations reflecting taphonomic factors occurring after death. Anthropologists are especially valuable in such interpretations because of their knowledge of human variation in skeletal anatomy and experience with human remains recovered from varied contexts.

The rapidly growing field of forensic anthropology has become increasingly interdisciplinary and international in scope. Applications relate closely with those of other disciplines of the forensic sciences, especially forensic pathology, forensic odontology, and criminalistics.

**Forensic Anthropology, Physical Anthropology, Fundamentals**