



# Traumatic Skeletal Analysis of Human Remains in Forensic Science

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## ABOUT THE STUDY

The human skeletal system consists of primarily supporting structures located within the body called the endoskeleton. The endoskeleton is composed of bone or cartilage. Bone is the hard, mineralized tissue of the vertebrate skeleton, composed of collagen, calcium phosphate, and calcium carbonate, and innervated by blood vessels. Analysis of the endoskeleton from human remains can provide information about the identity of the deceased, as well as information about the person's physical characteristics. This is especially useful for forensic scientists who process human remains in criminal investigations and are responsible for determining the identity of victims, how they died, and whether a crime was committed. Determining the cause of death, as the integrity of the remains is often severely decomposed and the cause of death may be due to a variety of causes (fire, murder, explosion, wildlife, poisoning, drowning, etc.). Forensic anthropologists are often consulted in these difficult cases. They combined their knowledge and training in human evolution, human diversity, human development, human genetics, and human osteology for use in criminal investigations and the following natural disasters. Studies of skeletal specimens are often carried out by forensic anthropologists. Forensic anthropology used in skeletal analysis recognizes his three major subspecialties forensic osteology, forensic archaeology, and forensic taphonomy.

The simplest definition of forensic osteology is the application of the study of bone (osteology) to the field of forensic science. Coroners still have experience working with bodies containing soft tissue, but the field of forensic osteology is mostly limited to scaffolding materials and the methods by which scaffolding is performed.

Forensic archeology is the branch of forensic science that uses archaeological techniques in investigating crime scenes to identify evidence and reconstruct crime scenes (usually murders). Forensic archaeologists are employed to excavate and recover human remains, belongings, weapons, etc., and dispose of unrelated objects. The process of forensic archaeology is very similar to the process of traditional archaeologists retrieving artifacts from the past. Forensic Archaeologists are used in cases involving buried human remains and buried evidence related to crimes. But it can also be used to settle civil cases where evidence is buried.

Forensic taphonomy is the use of processes related to dissecting cadavers in criminal investigations. For example, these processes have been used to estimate post-mortem intervals, post-burial intervals, and locate secret graves. Significant progress in recent years has led to a better understanding of the decomposition of cadavers and the associated effects on soil (burial grounds). These are checked as part of the soil-related information.

Bones are usually photographed and x-rayed to identify the cause of death. Some remains can be examined with a CT scan or high-power microscope. These techniques provide detailed information about the remains without altering them while providing a visual record. DNA analysis can help identify the cause of death. Not only can forensic anthropologists be able to determine in the field whether remains are human, but they also use a variety of methods to determine the gender, age at death, race, and height of the deceased. Certain bones can be used to determine the approximate age of a person. Young people who are still growing have special growth plates in their bones. When the body stops growing, some bones begin to fuse.

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