

Physical Characteristics

Part II

Forensic Anthropology



Outcomes

The participant will:

- Define Forensic Anthropology and the role of the Forensic Anthropologist
- Review the bones of the body
- Describe ways bones can be analyzed to help determine sex, age, stature and origin for possible identification
- Observe various types of trauma and disease on bone



Forensic Anthropology

Identification of skeletal human remains for medicolegal purposes.



Forensic Anthropologist

- Use specific scientific techniques to identify skeletal, badly decomposed, or otherwise unidentified human remains, based on a biological profile.
- These skills can be used to assist in the detection of crime to; identify a decedent, discover evidence of foul play, and /or in the postmortem interval, assist in the identification of remains.



Forensic Anthropologist

- Locate and excavate suspicious remains, and determine biological attributes such as:
 - sex, age at death, stature, ancestry, and skeletal pathology to suggest identity
 - observation of unique skeletal characteristics:
 - Disease, healed fractures, prosthetics, implants, abnormalities and anomalies



Bones

Is it human?

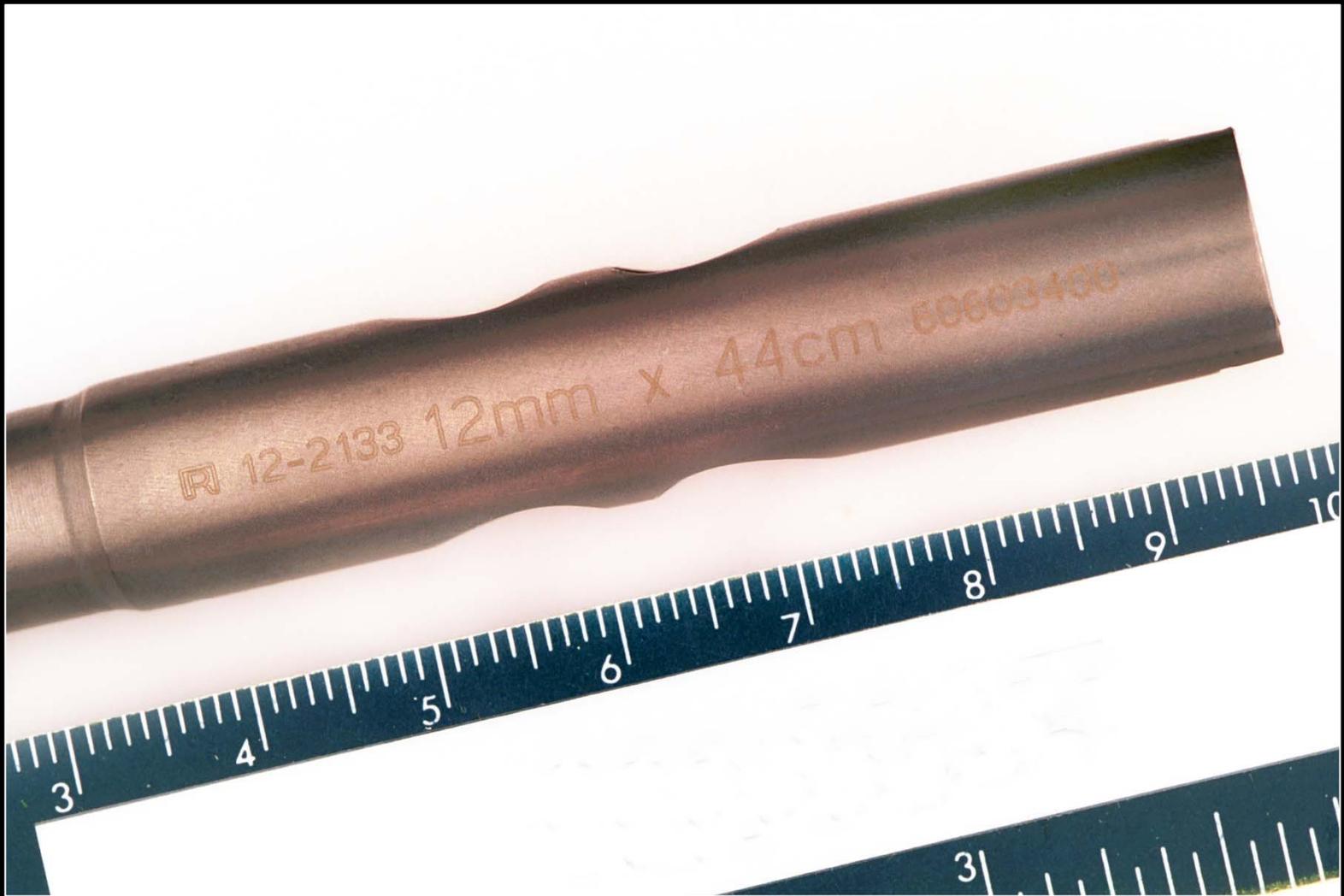








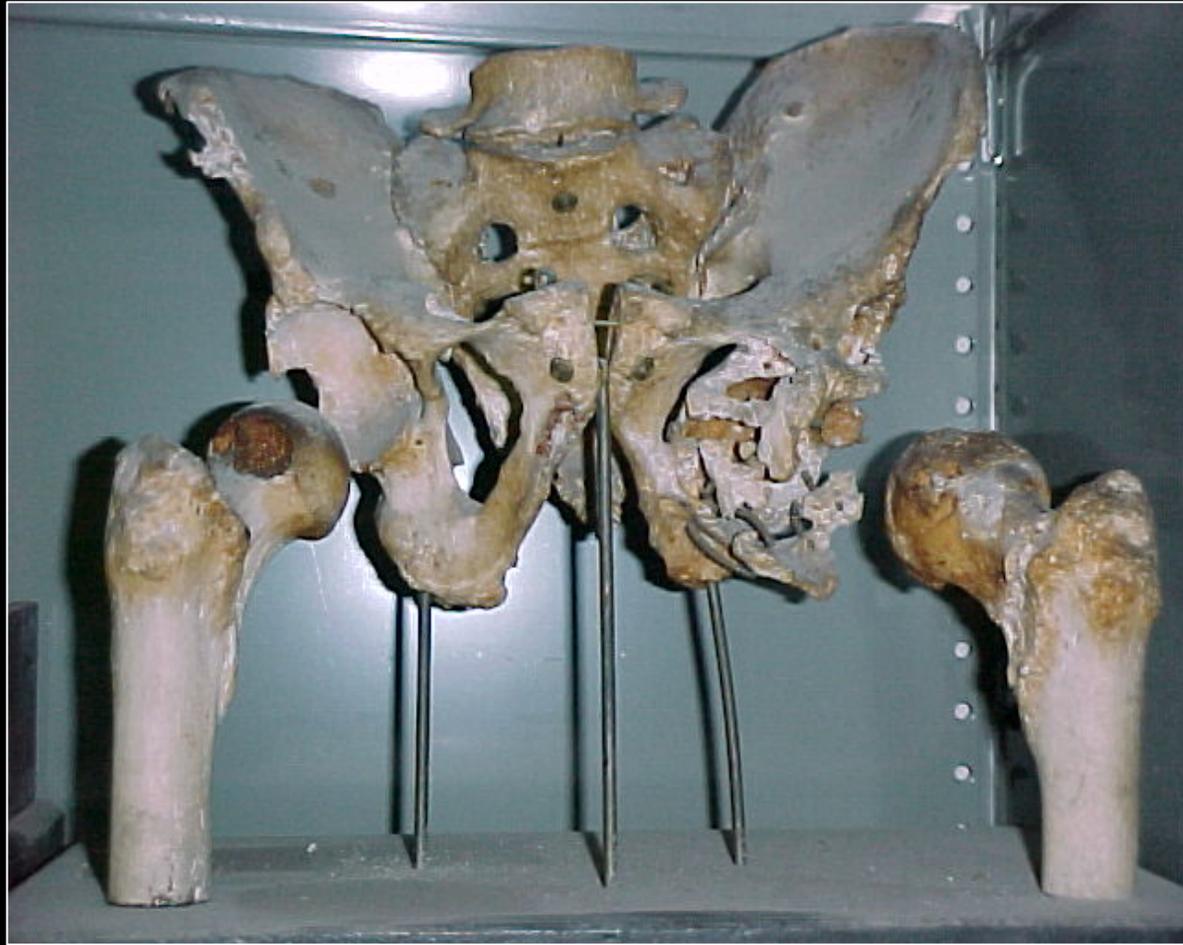




Artificial Cranial Deformation







Anencephalic infant 1839

- Usually fatal within a few days – anencephaly, is the absence of a large part of the brain and the skull.
- Occurs in about 4 out of 10,000 births



- The upper portion of the neural tube fails to close during fetal development.
- Possible causes include:
 - Environmental toxins
 - Low intake of folic acid



Anterior Midline Encephalocele



Paget's Disease

- Excessive and abnormal bone reabsorption and formation
- Osteoclast activity wanes while Osteoblasts continue to function
 - Often forming irregular bone thickenings, or filling the marrow cavity with pagetic bone

Pagetic bone – newly formed bone



- Any bone can be affected with Paget's disease.
 - Spine, pelvis, femur and skull most often involved



Achondroplastic Dwarf

“a” – *without*

“chondro” – *cartilage*

“plasti” – *mold, shape*



This rare form of dwarfism occurs due to the fetus' inability to form cartilage



**Heterozygous :
dwarfism**

Homozygous : lethal



Conjoined Twins





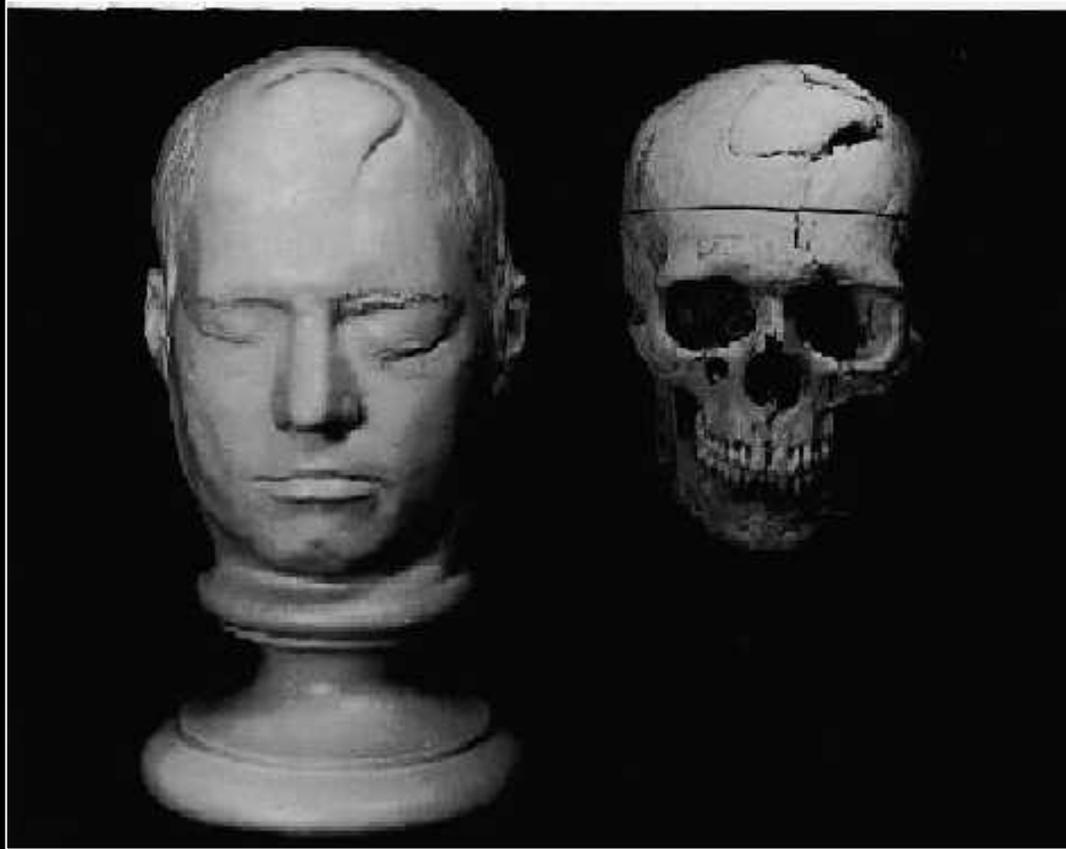


Osteomalacia - 1857

- Adult form of rickets
 - Lack of vitamin D or sunlight that synthesizes vitamin D
 - Bone softens
 - Common in urban areas of the 18th and 19th centuries – mostly in children



Phineas Gage



September 13th, 1848

- Phineas Gage was shot through the head with a tamping iron: 3'7", 13.5 lbs, 1.25" in diameter.

Entry point; under left cheek bone

- Exit point; top of head
 - Landing 25-30 yds behind him





He died 11 years later and his skull was exhumed and donated 2 years after his death.





