

Sexing the skeleton



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When reconstructing we must ask? - How many individuals we have? What do we use to reconstruct? - Clay Initial Treatment? - Sort remains - Determine commingling (bones of more than one individual?) - MNI What is MNI? - Minimum Number of Individuals Duplication - no two bones of the same type and side are present Consistency in Size - size and age - enduring that bones within individuals are of the same proportions Anthropometry - measuring both living and dead Osteometry - measurement of the skeleton and its parts All remains go through measurements to...? - determine height - age of juveniles and babies Anatomical Landmarks of the Skull - precise points that are used for measurements - Ex. Bregma Tools - Sliding Calipers - Spreading Calipers - Osteometric Board - Mandibulometer - Tape Measure Sliding Calipers - Measuring reference points that are close together and when the contours of the skull do not interfere Spreading Calipers - Measurement of points on the skull that cannot be taken in a straight line Osteometric Board - Used for measuring long bones and other large bones - Ex. Os Coxa, Scapula, Long Bones Mandibulometer - linear and angular measurements Tape Measure - Record circumference of long bone shafts - diameters Fordisc 3.0 Computer program utilizing discriminant functions based on modern populations. *Sex, Ancestry, and Stature Who developed Fordisc? Univ. of Tenn. Why did they create Fordisc? Inadequacy of older collections for modern forensic cases has necessitated new statistical methods based on recent data from modern skeletons Details of Fordisc? - 24 cranial - 10 mandibular - 44 postcranial - Ultimately use measurements from cranium and postcranial - Don't need all bones - Standard in N. America MNI Example #1 - 12 adult right femora - 7 adult left femora MNI - 12 MNI Example #2 - 12 adult right femora - 15 adult left femora - 4 juvenile left femora MNI - 19 Forensic Report - Headings - Summary of <https://assignbuster.com/sexing-the-skeleton/>

the results-Narrative-MNI Section-Biological Profile-Trauma-Time Since Death-Identification Summary of Results-Quick-Bulleted Narrative-Important-Background Info-where remains were located-something important about the scene-if scattered- how large a site-who collected the remains-What is the role of the forensic anthropologist in the case*****No conclusions in the narrative*****MNI Section-at the beginning of the report Biological Profile(Osteobiography)-After MNI-Age, Sex, Ancestry, and Stature (height)-Anomalies and or individualizing traits-developmental anomalies, pathologies, old injuries, dental restoration, etc. Trauma-Did trauma happen -Antemortem, perimortem, postmortem Time Since Death-Sometimes- Forensic Anthro. generally not the best person for this unless remains have been outside for an extended period Identification-If asked-Also done by ME, Odontologist, Forensic Anthro (In this Case) Antimortem-Before death-Will show some sign of healing Perimortem-At or around the time since death- Absence of healing-Still shows fresh signs (wet)-You can still get fresh characteristics on bone after death (bc bone is still fresh) Postmortem-After death-Dry characteristics Do we say anything about weight in a forensic report? No- absolutely nothing! Do we mention body build in a forensic report? Possibly-areas of muscle insertion are larger, robust/thicker Determination of Sex from Skeleton-Accuracy depends on:- reference sample-Number of bones available Entire Skeleton: 90-100% Pelvis: 90-95% Skull: 80-90% Long Bones: 80%-Can look at muscle insertions and joints Determining Sex from Skeleton if you only have cranium or mandible?- Becomes much more difficult How many traits do we use to determine sex?- As many as possible Are we determining gender? No-We are only focusing on biological sex Hermaphrodite Case Study Caster Semenya Caster Semenya- <https://assignbuster.com/sexing-the-skeleton/>

2009 World Championships (Gold-800 meters)-18 yr old from rural South African village Questions regarding Semenya?-Was she a woman?-Steroids?- Did she have a sex change operation?*Ordered a gender test Results to Semenya biological test?-hermaphrodite-male organs not visible-allowed to keep gold medal and prize money What literature do we have regarding a hermaphrodite skeleton?-Nothing-Potentially more male bc of testosterone-speculation Sexing a Subadult-Sex differences do not show until after puberty-Could do DNA test or material evidence-Forensic Anthropologists do not assess sex of juveniles Postcranial Sexual Dimorphism-begins in teen years-One sex larger than the other-Overall size and robusticity (robust vs. gracile) Postcranial Sexual Dimorphism Examples-femoral and humeral head dimensions-we could measure joint surfaces by themselves Single Measurement-Vertical diameter of the humeral head to determine sex-Only use this when it's all you've got-May use to sort remains in disaster Vertical Humeral Head Measurements-Females <43mm-Sex Indetermination 44-46mm-Males > 47mm Pelvic Inlet Shape Females- wide and flaring iliac bones Pelvic Inlet (Brim) Females-Wider and oval from side to side Pelvic Inlet (Brim) Males-Narrow and heart shaped Subpubic Characteristics- Females Angle-Greater than 90° (U-shaped) Sacrum- wider, shorter, flatter Subpubic Characteristics Males Angle-Less than 90° Sacrum-narrow, longer, curved Greater Sciatic Notch-Large notch on posterior aspect of pelvis-narrower in males-wider in females -approaches 90° Pubic Area Technique for Sexing? Phenice Technique Phenice-1969-most reliable non-metric technique of pelvis Morphology of the Pubic Bone (Phenice Technique) 1. Ventral Arc 2. Subpubic Concavity 3. Ischiopubic Ramus Ventral Arc-Expression?-expressed in females not males Subpubic Concavity-

Expression?-Expressed in females, not in males
Ischiopubic Ramus-
Expression?-thick in males-thin in females with ridge
What is the shape of the Ventral Arc (note only in females)?-slightly elevated ridge of bone across the ventral surface
What is the shape of the Subpubic Concavity (note only in females)?-A concave surface on the Ischiopubic ramus
What is the shape of the Ischiopubic (for females)?-Ridge on medial aspect
Pubic Bone
importance?-Single most important bone for age, sex, and childbirth. Female
Pubis Shape-rectangular and/or longer
Male Pubis Shape-triangular and/or shorter
Where is the Auricular Area-where the sacrum attaches
Male Auricular Surface-flatter
Female Auricular Surface-raised