

# [Sexing the skeleton](https://assignbuster.com/sexing-the-skeleton/)

When reconstructing we must ask?-How many individuals we haveWhat do we use to reconstruct?-ClayInitial Treatment?-Sort remains-Determine commingling (bones of more than one individual?)-MNIWhat is MNI?-Minimum Number of IndividualsDuplication-no two bones of the same type and side are presentConsistency in Size-size and age-enduring that bones within individuals are of the same proportionsAnthropometry-measuring both living and deadOsteometry-measurement of the skeleton and its partsAll remains go through measurements to…?-determine height-age of juveniles and babiesAnatomical Landmarks of the Skull-precise points that are used for measurements-Ex. BregmaTools-Sliding Calipers-Spreading Calipers-Osteometric Board-Mandibulometer-Tape MeasureSliding Calipers-Measuring reference points that are close together and when the countors of the skull do not interfereSpreading CalipersMeasurement of points on the skull that cannot be taken in a straight lineOsteometric Board-Used for measuring long bones and other large bones-Ex. OsCoxa, Scapula, Long BonesMandibulometer-linear and angular measurementsTape Measure-Record circumference of long bone shafts-diametersFordisc 3. 0Computer program utilizing discriminant functions based on modern populations.\*Sex, Ancestry, and StatureWho 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 skeletonsDetails of Fordisc?-24 cranial-10 mandibular-44 postcranial-Ultimately use measurements from cranium and postcranial-Don’t need all bones-Standard in N. AmericaMNI Example #1-12 adult right femora-7 adult left femoraMNI-12MNI Example #2-12 adult right femora-15 adult left femora-4 juvenile left femoraMNI-19Forensic Report- Headings-Summary of the results-Narrative-MNI Section-Biological Profile-Trauma-Time Since Death-IdentificationSummary of Results-Quick-BulletedNarrative-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 reportBiological 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, postmortemTime Since Death-Sometimes-Forensic Anthro. generally not the best person for this unless remains have been outside for an extended periodIdentification-If asked-Also done by ME, Odontologist, Forensic Anthro (In this Case)Antimortem-Before death-Will show some sign of healingPerimortem-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 characteristicsDo 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/thickerDetermination of Sex from Skeleton-Accuracy depends on:-reference sample-Number of bones availableEntire Skeleton: 90-100%Pelvis: 90-95%Skull: 80-90%Long Bones: 80%-Can look at muscle insertions and jointsDetermining Sex from Skeleton if you only have cranium or mandible?-Becomes much more difficultHow many traits do we use to determine sex?-As many as possibleAre we determining gender? No-We are only focusing on biological sexHermaphrodite Case StudyCaster SemenyaCaster Semenya-2009 World Championships (Gold-800 meters)-18 yr old from rural South African villageQuestions regarding Semenya?-Was she a woman?-Steroids?-Did she have a sex change operation?\*Ordered a gender testResults to Semenya biological test?-hermaphrodite-male organs not visible-allowed to keep gold medal and prize moneyWhat literature do we have regarding a hermaphrodite skeleton?-Nothing-Potentially more male bc of testosterone-speculationSexing a Subadult-Sex differences do not show until after puberty-Could do DNA test or material evidence-Forensic Anthropologists do not assess sex of juvenilesPostcranial 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 themselvesSingle 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 disasterVertical Humeral Head Measurements-Females <43mm-Sex Indetermination 44-46mm-Males > 47mmPelvic Inlet ShapeFemales- wide and flaring iliac bonesPelvic Inlet (Brim) Females-Wider and oval from side to sidePelvic Inlet (Brim) Males-Narrow and heart shapedSubpubic Characteristics- FemalesAngle-Greater than 90° (U-shaped)Sacrum- wider, shorter, flatterSubpubic Characteristics MalesAngle-Less than 90ºSacrum-narrow, longer, curvedGreater Sciatic Notch-Large notch on posterior aspect of pelvis-narrower in males-wider in females -approaches 90ºPubic Area Technique for Sexing? Phenice TechniquePhenice-1969-most reliable non-metric technique of pelvisMorphology of the Pubic Bone(Phenice Technique)1. Ventral Arc2. Subpubic Concavity3. Ischiopubic RamusVentral Arc-Expression?-expressed in females not malesSubpubic Concavity- Expression?-Expressed in females, not in malesIschiopubic Ramus-Expression?-thick in males-thin in females with ridgeWhat is the shape of the Ventral Arc (note only in females)?-slightly elevated ridge of bone across the ventral surfaceWhat is the shape of the Subpubic Concavity (note only in females)?-A concave surface on the Ischiopubic ramusWhat is the shape of the Ischiopubic (for females)?-Ridge on medial aspectPubic Bone importance?-Single most important bone for age, sex, and childbirth. Female Pubis Shape-rectangular and/or longerMale Pubis Shape-triangular and/or shorterWhere is the Auricular Area-where the sacrum attachesMale Auricular Surface-flatterFemale Auricular Surface-raised