Arizona State Museum
THE UNIVERSITY OF ARIZONA

# ARIZONA STATE MUSEUM
# SKELETAL INVENTORY FORM GUIDELINES

## General Comments

Recording protocols and codes used in these forms are largely those described in *Standards for Data Collection from Human Skeletal Remains*, edited by Jane E. Buikstra and Douglas H. Ubelaker, Arkansas Archeological Survey Research Series No. 44, 1994. A copy of *Standards* is required in order to fill out these forms accurately. It may be obtained from the Arkansas Archeological Survey, 2475 N. Hatch Ave., Fayetteville, AR 72704, http://www.uark.edu/campus-resources/archinfo/. Additional codes are based on Ubelaker (1999) and McClelland (2003).

These forms have been developed in the Bioarchaeology Lab of the Arizona State Museum. Many of them are derived from forms included in *Standards* and may include drawings from that publication. These are used with permission of the publisher.

Select only those forms which apply, depending upon type of burial, condition of the remains, and age of the individual. An inventory package for a complete set of adult remains would include Forms 1-12. If pathologies are present, they should be illustrated on the element sheets (Forms 13-29).

An inventory package for juvenile remains will include a mixture of adult and juvenile forms, depending on age of the individual. The bone by bone inventory still appears on Form 1, but Form 30 is used for age assessment instead of Form 2. Measurements are recorded on Form 31 in lieu of Form 6, except in the case of older subadults with fused long bone epiphyses. Many juveniles have permanent as well as deciduous teeth and will require both sets of dental forms.

Form 35 (Isolated Bone) and Forms 36a and b (Cremated Bone) may be used as single sheets without the checklist.

If there is uncertainty about the presence of a specific trait or pathology, it is better to leave the line blank. Missing information is preferable to inaccurate data. However, textual description is essential in all cases.

## Human Skeletal Remains Checklist

1. MNI Form is "individual" for sets of remains from a single individual. If more than one individual is represented and it is impossible to fully separate all bone fragments for analytical purposes, MNI Form is "mixed."

2. The burial feature should be fully described on a separate set of forms. Most archaeological contractors have standard form packages for burial features that record the minimum information required by *A.R.S. §41-844 and §41-865 Guidelines*. The Arizona State Museum Burial Record form may also be used and is available in a separate file.

3. Collection type categories include archaeological, forensic, anatomical, etc.

Skeletal Inventory (Form 1)

1. Long bone segments:
   epi-p = proximal epiphysis
   prox = proximal 1/3 of shaft
   mid = middle 1/3 of shaft
   dist = distal 1/3 of shaft
   epi-d = distal epiphysis

2. If you cannot identify the exact position of a lumbar vertebra, or a metatarsal, etc., bracket the entire category and write in the total number of elements of that type with the average completeness stage.

3. If an element can be identified but the side is unknown, enter as a left and indicate in the Notes section that the element is unsided.

Adult Age and Sex Assessment (Form 2)

1. Note that three different numerical scales are used for the sex indicators. Therefore, the total estimated sex number cannot be a numerical average. The overall estimated sex assessment is judgmental based upon which traits you think are more indicative. Use the following codes for the overall assessment: 1= female, 2= female?, 3= indeterminate, 4= male?, and 5= male.

2. In the comments section for age, indicate any other criteria which led to the age estimate. State the age range in years.

Teeth (Forms 3, 4, 32a, 32b)

1. Tooth presence, wear, and development status is shown on Forms 3 and 32a. The stage of wear is written directly on the drawing of the tooth. Molar wear is recorded for each of four quadrants. An X is indicated if part of the tooth is missing, whether from caries or breakage. Type of loss or development status is shown on the line adjacent to the tooth.

2. Dental pathologies are recorded on Forms 4 and 32b. The section at the bottom of the form is a checklist for each category of pathology. Make sure that each category is checked off as either present, absent, or unobservable. This is to verify consistency of observation.

3. Mark the location of caries, hypoplasia, calculus, and hypocalcification (also referred to as opacities) on the diagram at the top of the page. Indicate the type or stage for each pathology. Refer to Buikstra and Ubelaker (1994) for codes.

4. Abscesses and periodontal disease should be indicated on the maxilla and mandible diagrams on the bottom of the page.

5. Also indicate on the drawings of the maxilla and mandible any portions of the bone that are missing.

Dental Morphology (Forms 5a, 5b, 32c, 32d)

1. Most of these traits are derived from Turner et al. (1991). Some traits of deciduous teeth are derived from Hanihara (1961). Others are defined in McClelland (2003).

2. Many of the traits are scored in comparison with dental casts that may be obtained from the Dental Anthropology Lab at Arizona State University. Generally, these forms should be completed only by an analyst who has had training or experience in dental anthropology.

Measurements (Forms 6, 7b, and 31)

1. Lengths of long bones should only be recorded if the ends are intact. Use Form 6 for all elements with fused epiphyses. The long bone lengths on Form 31 are shaft lengths without epiphyses. It should be used only for immature bones and not for bones that are incomplete.

2. Estimated lengths should only be recorded if there are small portions of the bone missing and the estimate is likely to be within 5 mm of the true value. In this case, the measurement is marked with an asterisk.

3. Skulls are frequently distorted postmortem by soil pressure. Do not record any cranial measurements that could have been affected by this process.

Nonmetric Traits (Forms 7a and b)

1. A copy of *Standards* is essential in order to complete these forms.

2. If there is uncertainty about trait presence or category of expression, record as unobservable or add a written description of the character.

Cranial Deformation (Form 8)

1. Do not record cranial deformation if there is significant postmortem warping of the skull.

2. The skull must be held in the Frankfort Horizontal plane in order to determine the relative angle of the plane of pressure.

Skeletal Pathologies (Form 9)

1. The purpose of the checklist is to insure that observations are made. Each condition should have a checkmark in one of the three columns. Description must be included for any pathology noted as present.

2. All pathologies on long bones, spine, extremities, skull, innominate, scapula, clavicle, and sacrum should be sketched and described on the individual element forms (Forms 13-29). Pathologies on other elements can be depicted or described in the Notes section of the Pathology Checklist or on an attached blank sheet if more space is required.

3. Most pathology descriptions should be written on the element forms, but if there are multiple pathologies that form a pattern, also reference them in the Notes section of the Pathology Checklist. This is especially relevant in the diagnosis of systemic diseases such as treponemal infections or tuberculosis.

4. For an inflammatory reaction or trauma, be sure to state whether the lesion appears to be active, healing, or fully remodeled.

Degenerative Joint Disease (Form 10)

1. Codes for stages of degenerative joint disease are those illustrated in Ubelaker (1999:87).

2. Give a general assessment of the severity of the DJD in the Notes section. Is the lipping very slight? Are there certain elements that have more pronounced lipping? Is it symmetrical or is there a greater degree of expression on one side even though it is the same stage?

3. A fifth category (type e) has been added to cover other forms of DJD, such as flattening of mandibular condyles. Describe these in the notes section.

Spinal Osteophytosis (Form 11)

1. Codes for stages of osteophytosis are those illustrated in Ubelaker (1999:85).

2. If the severity of osteophytosis varies along the spine, note on the drawing which stages apply where.

3. Compression fractures, ankylosis, or other conditions can be illustrated on this form or on Form 9 in the Notes section. For ankylosis, note is the fusion is in the vertebral body, the spinous process or both and indicate the degree of fusion.

Adult Skeleton, Infant Skeleton, and Child Skeleton (Forms 12, 33, and 34)

1. These drawings may be used to illustrate the distribution of skeletal lesions, trauma, or other conditions, when there are multiple manifestations of pathology in the individual.

2. The forms may also be used to graphically indicate the completeness of the remains by coloring in the portions which are present.

Individual Element Drawings (Forms 13-29)

1. Drawings of pathologies or other unusual conditions should include length and width measurements of the area affected and the location relative to at least one landmark. Illustrate on each aspect of the bone (anterior, lateral, etc.) on which it is visible.

2. Provide as thorough a description as possible. Is the lesion proliferative or lytic? Is the reactive bone porous (macro- or microporosity) or woven in texture? Does it appear to be confined to the cortical surface or does it extend into the medullary cavity? Does the lesion appear active, healing, or fully remodeled?

3. In the case of healed fractures, indicate if there has been a change in the alignment of the bone. Are there ridges or grooves that formed as a result of trauma?

Isolated Bone (Form 35)

1. This form may be used as a single sheet to record very fragmentary unburned human remains that are found outside the context of burial features. It may also be used to record the occasional human bone fragments that are sometimes found in bags of faunal bone once they reach the lab.

2. It may also be used as a supplement to a complete inventory package when there are a few bone fragments that clearly belong to another individual or individuals.

3. When multiple individuals are represented, specify which fragments belong to which individual.

Cremated Bone (Forms 36a and 36b)

1. Form 36a is used for cremations with few identifiable fragments and Form 36b for more complete cremations.

2. Estimate what percentage of the fragments belong to each anatomical region (cranial, dental, etc.). Include the percentage that is unidentifiable as to region.

3. Record maximum and average fragment lengths in centimeters.

4. If the color of fragments varies, estimate what percentages are in each category. Note if color (and therefore degree of burning) varies according to anatomical region.

5. Record the presence of cracking, checking, and warping. Is the bone calcined or weathered?

6. Note the presence of unidentified cranial vault bones or unidentified long bone (major or minor) shaft fragments.

7. In very fragmentary cremations, there may be no pieces that are identifiable as to element. In this case, is the bone "Consistent with human, but not diagnostic" or "Indeterminate with respect or human or animal?"

References


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1994 *Standards for Data Collection From Human Skeletal Remains.* Arkansas Archeological Survey Research Series No. 44. Fayettevile, Arkansas.

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1961 Criteria for classification of crown characteristics of the human deciduous dentition. *Journal of the Anthropological Society of Nippon* 69:27-45.

McClelland, J. A.
2003 *Refining the Resolution of Biological Distance Studies Based on the Analysis of Dental Morphology: Detecting Subpopulations at Grasshopper Pueblo*. Unpublished Ph.D. dissertation University of Arizona, Tucson

Turner, C. G., II, C. R. Nichol and G. R. Scott
1991 Scoring procedures for key morphological traits of the permanent dentition: the Arizona State University dental anthropology system. In *Advances in Dental Anthropology*, edited by M. A. Kelley and C. S. Larsen, pp. 13-31. Wiley-Liss, New York.

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# ARIZONA STATE MUSEUM
# HUMAN SKELETAL REMAINS CHECKLIST

Site Name/Number _____ Observers_____
Feature/Burial Number_____ _____
Present Location of Remains_____ Date _____

General

☐ Juvenile MNI _____ collection type _____
☐ Adult MNI Form _____

Taphonomy

| Yes | No | Unobservable | |
|---|---|---|---|
| ☐ | ☐ | ☐ | Weathering (describe severity and which elements affected) _____ _____ |
| ☐ | ☐ | ☐ | Discoloration _____ _____ |
| ☐ | ☐ | ☐ | Cutmarks, gnaw marks _____ |

Form List - indicate forms used

| | | |
|---|---|---|
| ☐ | 1 | Skeletal Inventory |
| ☐ | 2 | Adult Age and Sex |
| ☐ | 3 | Permanent Teeth Inventory |
| ☐ | 4 | Permanent Teeth Pathologies |
| ☐ | 5 a & b | Permanent Teeth Morphology (optional) |
| ☐ | 6 | Postcranial Measurements (Adult) |
| ☐ | 7a & b | Non-Metric Traits and Cranial Metrics |
| ☐ | 8 | Cranial Deformation |
| ☐ | 9 | Pathology Checklist |
| ☐ | 10 | Degenerative Joint Disease |
| ☐ | 11 | Spinal Osteophytosis and DJD |
| ☐ | 12 | Adult Skeleton |
| ☐ | 13 | Adult Skull |
| ☐ | 14 | Left Ilium, Scapula, and Clavicle |
| ☐ | 15 | Right Ilium, Scapula, and Clavicle |
| ☐ | 16 | Right Humerus |
| ☐ | 17 | Left Humerus |
| ☐ | 18 | Right Radius |
| ☐ | 19 | Left Radius |
| ☐ | 20 | Right Ulna |
| ☐ | 21 | Left Ulna |
| ☐ | 22 | Right Femur |
| ☐ | 23 | Left Femur |
| ☐ | 24 | Right Tibia |
| ☐ | 25 | Left Tibia |
| ☐ | 26 | Right Fibula |
| ☐ | 27 | Left Fibula |
| ☐ | 28a & b | Hand |
| ☐ | 29a & b | Foot |
| ☐ | 30 | Immature Epiphyseal Union & Age Assessment |
| ☐ | 31 | Immature Measurements |
| ☐ | 32a | Deciduous Teeth Inventory |
| ☐ | 32b | Deciduous Teeth Pathology |
| ☐ | 32c & d | Deciduous Teeth Morphology (Optional) |
| ☐ | 33 | Infant Skeleton |
| ☐ | 34 | Child Skeleton |
| ☐ | 35 | Isolated Bones |
| ☐ | 36a & b | Cremated Bone (use 36b only for more complete cremations) |

Provenience _____ Numeric I.D. _____ ASM 8/24/04 Form 1

# SKELETAL INVENTORY

**AXIAL**

| element | # | cond |
|---|---|---|
| 1st Cervical | | ____ |
| 2nd Cervical | | ____ |
| 3-6 Cervical | ____ | ____ |
| 7th Cervical | | ____ |
| 1-9 Thoracic | ____ | ____ |
| 10th Thoracic | | ____ |
| 11th Thoracic | | ____ |
| 12th Thoracic | | ____ |
| 1st Lumbar | | ____ |
| 2nd Lumbar | | ____ |
| 3rd Lumbar | | ____ |
| 4th Lumbar | | ____ |
| 5th Lumbar | | ____ |
| Sacrum | ____ | ____ |
| Coccyx | ____ | ____ |
| Left Ribs | ____ | ____ |
| Right Ribs | ____ | ____ |

**APPENDICULAR**

| element | left | right |
|---|---|---|
| Scapula | ____ | ____ |
| glenoid | ____ | ____ |
| Clavicle | ____ | ____ |
| med. epi. | ____ | ____ |
| Sternum | | |
| manubrium | ____ | |
| body | ____ | |
| xiphoid | ____ | |
| Ilium | ____ | ____ |
| auricular | ____ | ____ |
| Pubis | ____ | ____ |
| symphysis | ____ | ____ |
| Ischium | ____ | ____ |
| Acetabulum | ____ | ____ |
| Patella | ____ | ____ |

**CRANIAL**

| element | left | right |
|---|---|---|
| Parietal | ____ | ____ |
| Temporal | ____ | ____ |
| Zygomatic | ____ | ____ |
| Lacrimal | ____ | ____ |
| I. N. C. | ____ | ____ |
| Nasal | ____ | ____ |
| Maxilla | ____ | ____ |
| Palatine | ____ | ____ |
| TMJ | ____ | ____ |
| Mandible | | ____ |
| Frontal | | ____ |
| Sphenoid | | ____ |
| Ethmoid | | ____ |
| Vomer | | ____ |
| Occipital | | ____ |
| Hyoid | | ____ |
| Thyroid | | ____ |
| Crycoid | | ____ |
| Ossicles | | ____ |

## APPENDICULAR

| element | left side: epi-p/ | prox/ | mid/ | dist/ | epi-d | right side: epi-p/ | prox/ | mid/ | dist/ | epi-d |
|---|---|---|---|---|---|---|---|---|---|---|
| Humerus | ____/ | ____/ | ____/ | ____/ | ____ | ____/ | ____/ | ____/ | ____/ | ____ |
| Radius | ____/ | ____/ | ____/ | ____/ | ____ | ____/ | ____/ | ____/ | ____/ | ____ |
| Ulna | ____/ | ____/ | ____/ | ____/ | ____ | ____/ | ____/ | ____/ | ____/ | ____ |
| Femur | ____/ | ____/ | ____/ | ____/ | ____ | ____/ | ____/ | ____/ | ____/ | ____ |
| Tibia | ____/ | ____/ | ____/ | ____/ | ____ | ____/ | ____/ | ____/ | ____/ | ____ |
| Fibula | ____/ | ____/ | ____/ | ____/ | ____ | ____/ | ____/ | ____/ | ____/ | ____ |

**Codes:**

c = >/= 75% present
p = 25% - 75% present
f = < 25% present

**NOTES**

## EXTREMITIES

| element | # | cond |
|---|---|---|
| Scaphoid | ____ | ____ |
| Lunate | ____ | ____ |
| Trapezium | ____ | ____ |
| Trapezoid | ____ | ____ |
| Capitate | ____ | ____ |
| Hamate | ____ | ____ |
| Triquetral | ____ | ____ |
| Pisiform | ____ | ____ |
| Metacarpals | | |
| 1st | ____ | ____ |
| 2nd | ____ | ____ |
| 3rd | ____ | ____ |
| 4th | ____ | ____ |
| 5th | ____ | ____ |
| C. Phalanges | | |
| proximal | ____ | ____ |
| middle | ____ | ____ |
| distal | ____ | ____ |
| Sesamoids | ____ | ____ |

| element | # | cond |
|---|---|---|
| Calcaneus | ____ | ____ |
| Talus | ____ | ____ |
| Cuboid | ____ | ____ |
| Navicular | ____ | ____ |
| Medial Cuneiform | ____ | ____ |
| Intermed. Cuneiform | ____ | ____ |
| Lateral Cuneiform | ____ | ____ |
| Metatarsals | | |
| 1st | ____ | ____ |
| 2nd | ____ | ____ |
| 3rd | ____ | ____ |
| 4th | ____ | ____ |
| 5th | ____ | ____ |
| T. Phalanges | | |
| proximal | ____ | ____ |
| middle | ____ | ____ |
| distal | ____ | ____ |
| Sesamoids | ____ | ____ |

Provenience _____ Numeric I.D. _____ ASM 8/24/04 Form 2

# ADULT AGE/SEX RECORDING FORM

## Age Criteria

| **Pubic Symphysis** | Left | Right |
|---|---|---|
| Todd (1-10) | ____ | ____ |
| Suchey-Brooks (1-6) | ____ | ____ |

| **Auricular Surface** | Left | Right |
|---|---|---|
| (1-8) | ____ | ____ |

**Suture Closure & Epiphyseal Union**: blank = unobservable, 0 = open, 1 = minimal, 2 = significant, 3 = complete

| | | |
|---|---|---|
| **External Cranial Vault** | 1. Midlambdoid | ____ |
| | 2. Lambda | ____ |
| | 3. Obelion | ____ |
| | 4. Anterior Sagittal | ____ |
| | 5. Bregma | ____ |
| | 6. Midcoronal | ____ |
| | 7. Pterion | ____ |
| | 8. Sphenofrontal | ____ |
| | 9. Inferior Sphenotemporal | ____ |
| | 10. Superior Sphenotemporal | ____ |
| **Clavicle** | Sternal epiphysis | ____ |
| **Sacrum** | S1/S2 fusion | ____ |
| **Innominate** | Iliac crest | ____ |

| | | | |
|---|---|---|---|
| **Palatine** | 11. Incisive Suture | | ____ |
| | 12. Anterior Median Palatine | | ____ |
| | 13. Posterior Median Palatine | | ____ |
| | 14. Transverse Palatine | | ____ |
| **Internal Cranial Vault** | 15. Sagittal | | ____ |
| | 16. Left Lambdoid | | ____ |
| | 17. Left Coronal | | ____ |
| **Vertebral Annular Epiphyses** | Cervical | superior | ____ |
| | | inferior | ____ |
| | Thoracic | superior | ____ |
| | | inferior | ____ |
| | Lumbar | superior | ____ |
| | | inferior | ____ |

**Estimated Age**: Subadult (12-18 years) ____
Young Adult (18-35 years) ____
Middle Adult (35-50 years) ____
Old Adult (50+ years) ____

Comments:

## Sex

| **Pelvis** | Left | Right |
|---|---|---|
| Ventral Arc (1-3) | ____ | ____ |
| Subpubic Concavity (1-3) | ____ | ____ |
| Ischiopubic Ramus Ridge (1-3) | ____ | ____ |
| Greater Sciatic Notch (1-5) | ____ | ____ |
| Preauricular Sulcus (0-4) | ____ | ____ |

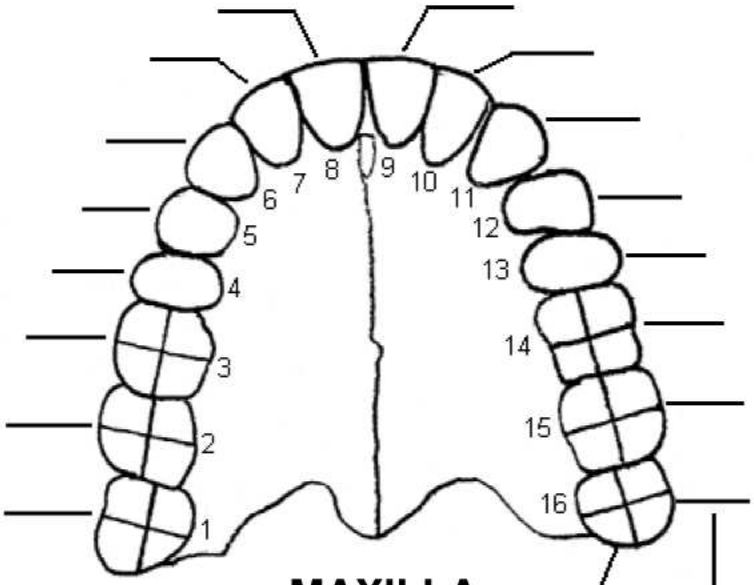
| **Skull** | |
|---|---|
| Nuchal Crest (1-5) | ____ |
| Mastoid Process (1-5) | ____ |
| Supraorbital Margin (1-5) | ____ |
| Glabella (1-5) | ____ |
| Mental Eminence (1-5) | ____ |

Estimated Sex, Pelvis (1-5) _____ = ____ Estimated Sex, Skull (1-5) _____ = ____

Comments:

# PERMANENT TEETH RECORDING FORM
## Wear, Development, Loss

| Loss Categories | Wear Stages | Development Stages |
|---|---|---|
| A = antemortem | 0 = not in occlusion | 0 = unobservable |
| P = postmortem | 1-10 = per *Standards* | 1-14 = per *Standards* |
| U = unknown | X = unknown due to caries or breakage | |

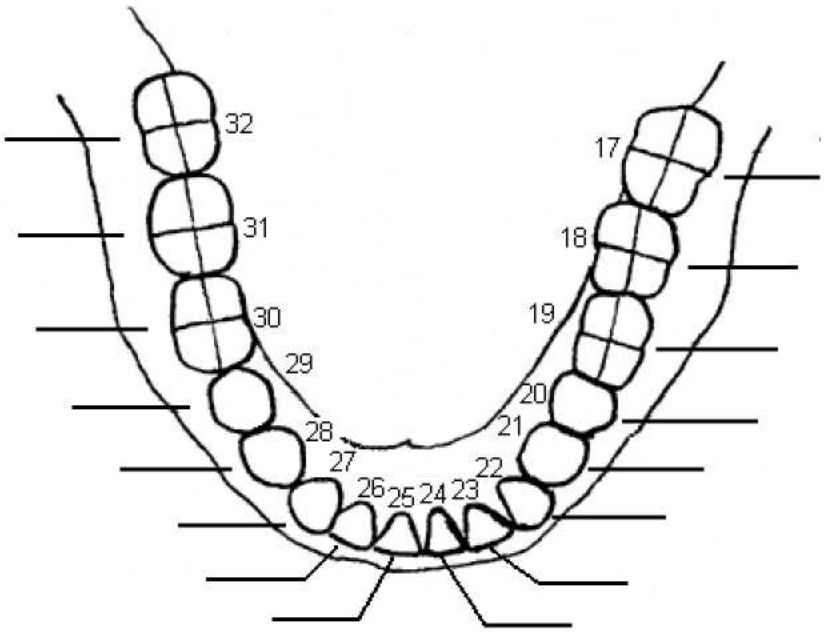



**MAXILLA**

Wear

Development or Loss Category

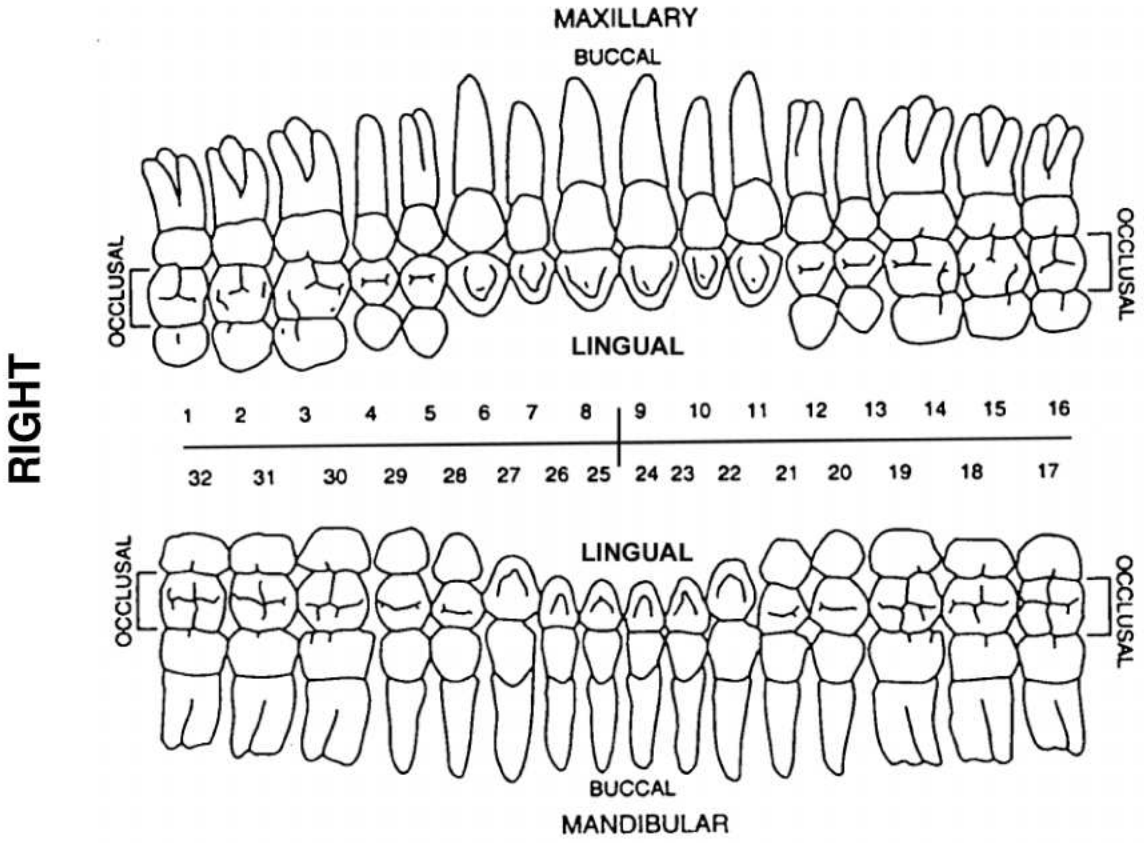
**RIGHT** **LEFT**



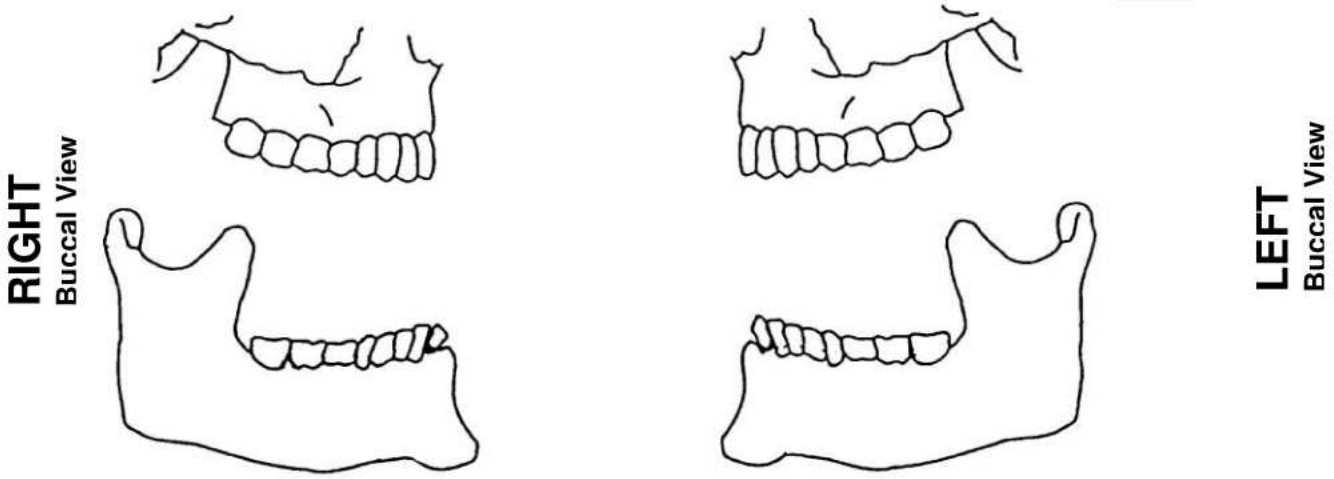

**MANDIBLE**

Provenience _____ Numeric I.D. _____ ASM 8/24/04 Form 4

# PERMANENT TEETH RECORDING FORM
## Pathologies




**Indicate missing alveolar bone on drawings below with cross-hatching**




**Note: Indicate dental pathologies on the drawings above. Use codes per *Standards.***

| **Checklist:** | Caries | Abscesses | Hypoplasia | Calculus | Periodontal Disease | Hypocalcification |
|---|---|---|---|---|---|---|
| present | ____ | ____ | ____ | ____ | ____ | ____ |
| absent | ____ | ____ | ____ | ____ | ____ | ____ |
| unobservable | ____ | ____ | ____ | ____ | ____ | ____ |

This form includes information derived from Buikstra and Ubelaker (1994), *Standards for Data Collection from Human Skeletal Remains,* Arkansas Archeological Survey, and is used with permission of the publisher.

Provenience _____ Numeric I.D. _____ ASM 8/24/04 Form 5a

# DENTAL MORPHOLOGY – PERMANENT TEETH

## MANDIBLE

| | Right | | | | | | | | Left | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 32 | 31 | 30 | 29 | 28 | 27 | 26 | 25 | 24 | 23 | 22 | 21 | 20 | 19 | 18 | 17 |
| | $M_3$ | $M_2$ | $M_1$ | $P_2$ | $P_1$ | C | $I_2$ | $I_1$ | $I_1$ | $I_2$ | C | $P_1$ | $P_2$ | $M_1$ | $M_2$ | $M_3$ |
| Shovel | | | | | | | | | | | | | | | | |
| Double shovel | | | | | | | | | | | | | | | | |
| Distal acces ridge | | | | | | | | | | | | | | | | |
| Radical number | | | | | | | | | | | | | | | | |
| Odontome | | | | | | | | | | | | | | | | |
| Cong absence | | | | | | | | | | | | | | | | |
| Lingual cusps | | | | | | | | | | | | | | | | |
| Anterior fovea | | | | | | | | | | | | | | | | |
| Groove pattern | | | | | | | | | | | | | | | | |
| Cusp number | | | | | | | | | | | | | | | | |
| Deflect wrinkle | | | | | | | | | | | | | | | | |
| Distal trigonid crest | | | | | | | | | | | | | | | | |
| Mid trigonid crest | | | | | | | | | | | | | | | | |
| Protostylid | | | | | | | | | | | | | | | | |
| Cusp 5 | | | | | | | | | | | | | | | | |
| Cusp 6 | | | | | | | | | | | | | | | | |
| Cusp 7 | | | | | | | | | | | | | | | | |
| C Root number | | | | | | | | | | | | | | | | |
| Tome's root | | | | | | | | | | | | | | | | |
| M Root number | | | | | | | | | | | | | | | | |
| Torsomolar angle | | | | | | | | | | | | | | | | |

Provenience _____ Numeric I.D. _____ ASM 8/24/04 Form 5b

# DENTAL MORPHOLOGY – PERMANENT TEETH

## MAXILLA

| | Right | | | | | | | | Left | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | $M^3$ | $M^2$ | $M^1$ | $P^2$ | $P^1$ | C | $I^2$ | $I^1$ | $I^1$ | $I^2$ | C | $P^1$ | $P^2$ | $M^1$ | $M^2$ | $M^3$ |
| Winging | | | | | | | | | | | | | | | | |
| Labial curve | | | | | | | | | | | | | | | | |
| Shovel | | | | | | | | | | | | | | | | |
| Double shovel | | | | | | | | | | | | | | | | |
| Interrupt groove | | | | | | | | | | | | | | | | |
| Tuberculum dentale | | | | | | | | | | | | | | | | |
| C mesial ridge | | | | | | | | | | | | | | | | |
| Distal acces ridge | | | | | | | | | | | | | | | | |
| Tricusped premolars | | | | | | | | | | | | | | | | |
| Accessory cusps | | | | | | | | | | | | | | | | |
| Distosagittal ridge | | | | | | | | | | | | | | | | |
| Metacone | | | | | | | | | | | | | | | | |
| Hypocone | | | | | | | | | | | | | | | | |
| Cusp 5 | | | | | | | | | | | | | | | | |
| Carabelli's Trait | | | | | | | | | | | | | | | | |
| Parastyle | | | | | | | | | | | | | | | | |
| Enamel ext | | | | | | | | | | | | | | | | |
| Root number | | | | | | | | | | | | | | | | |
| Root number | | | | | | | | | | | | | | | | |
| Radical number | | | | | | | | | | | | | | | | |
| Peg incisor | | | | | | | | | | | | | | | | |
| Peg molar | | | | | | | | | | | | | | | | |
| Odontome | | | | | | | | | | | | | | | | |
| Cong absence | | | | | | | | | | | | | | | | |

# POSTCRANIAL MEASUREMENT RECORDING FORM (ADULTS)

All measurements are in millimeters. * indicates that measurement is approximate

| | left | right |
|---|---|---|
| 35. Clavicle: maximum length | ____ | ____ |
| 36. Clavicle: A-P Dia. at midshaft | ____ | ____ |
| 37. Clavicle: sup-inf Dia. at midshaft | ____ | ____ |
| 38. Scapula: height | ____ | ____ |
| 39. Scapula: breadth | ____ | ____ |
| 40. Humerus: maximum length | ____ | ____ |
| 41. Humerus: epicondylar breadth | ____ | ____ |
| 42. Humerus: vertical dia. of head | ____ | ____ |
| 43. Humerus: max. dia. at midshaft | ____ | ____ |
| 44. Humerus: min. dia. at midshaft | ____ | ____ |
| 45. Radius: maximum length | ____ | ____ |
| 46. Radius: A-P dia. at midshaft | ____ | ____ |
| 47. Radius: M-L dia. at midshaft | ____ | ____ |
| 48. Ulna: maximum length | ____ | ____ |
| 49. Ulna: A-P diameter | ____ | ____ |
| 50. Ulna: M-L diameter | ____ | ____ |
| 51. Ulna: physiological length | ____ | ____ |
| 52. Ulna: minimum circumference | ____ | ____ |
| 53. Sacrum: anterior length | ____ | |
| 54. Sacrum: anterior superior breadth | ____ | |
| 55. Sacrum: max. trans. dia. of base | ____ | |

| | left | right |
|---|---|---|
| 56. Os Coxae: height | ____ | ____ |
| 57. Os Coxae: Iliac breadth | ____ | ____ |
| 58. Os Coxae: pubis length | ____ | ____ |
| 59. Os Coxae: ischium length | ____ | ____ |
| 60. Femur: maximum length | ____ | ____ |
| 61. Femur: bicondylar length | ____ | ____ |
| 62. Femur: epicondylar breadth | ____ | ____ |
| 63. Femur: max. dia. of head | ____ | ____ |
| 64. Femur: A-P subtrochanteric | ____ | ____ |
| 65. Femur: M-L subtrochanteric | ____ | ____ |
| 66. Femur: A-P midshaft dia. | ____ | ____ |
| 67. Femur: M-L midshaft dia. | ____ | ____ |
| 68. Femur: midshaft circum. | ____ | ____ |
| 69. Tibia: length | ____ | ____ |
| 70. Tibia: max. prox. epi. breadth | ____ | ____ |
| 71. Tibia: max. dist. epi. breadth | ____ | ____ |
| 72. Tibia: max. dia. at foramen | ____ | ____ |
| 73. Tibia: min. dia. at foramen | ____ | ____ |
| 74. Tibia: circum. at foramen | ____ | ____ |
| 75. Fibula: maximum length | ____ | ____ |
| 76. Fibula: max midshaft dia. | ____ | ____ |
| 77. Calcaneus: maximum length | ____ | ____ |
| 78. Calcaneus: middle breadth | ____ | ____ |

**NONMETRIC TRAITS** Provenience _____Numeric I.D. _____ **ASM 8/24/04** Form 7a

**1. Metopic suture:** L ___ M ___ R
0 = absent
1 = partial
2 = complete
9 = unobservable

**2. Supraorbital structures:**
**a. Supraorbital notch:** L ___ R ___
0 = absent
1 = present, < ½ occluded by spicules
2 = present, > ½ occluded by spicules
3 = present, degree of occlusion unknown
4 = multiple notches
9 = unobservable

**b. Supraorbital foramen:** L ___ R ___
0 = absent
1 = present
2 = multiple foramina
9 = unobservable

**3. Infraorbital suture:** L ___ R ___
0 = absent
1 = present
2 = complete
9 = unobservable

**4. Multiple infraorbital foramina:** L ___ R ___
0 = absent
1 = internal division only
2 = two distinct foramina
3 = more than two distinct foramina
9 = unobservable

**5. Zygomatico-facial foramina:** L ___ R ___
0 = absent
1 = 1 large
2 = 1 large plus smaller f.
3 = 2 large
4 = 2 large plus smaller f.
5 = 1 small
6 = multiple small
9 = unobservable

**6. Parietal foramen:** L ___ R ___
0 = absent
1 = present, on parietal
2 = present, sutural
9 = unobservable

**7. Sutural bones:** 0 = absent, 1 = present, 9 = unobserv.
a. epiteric bone L ___ R ___
b. coronal ossicle L ___ R ___
c. bregmatic bone ___
d. sagittal ossicle ___
e. apical bone ___
f. lambdoid ossicle L ___ R ___
g. asterionic bone L ___ R ___
h. ossicle in occipito-mastoid suture L ___ R ___
i. parietal notch bone L ___ R ___

**8. Inca bone:** ___
0 = absent
1 = complete, single bone
2 = bipartite
3 = tripartitie
4 = partial
9 = unobservable

**9. Condylar canal** L ___ R ___
0 = not patent
1= patent
9 = unobservable

**10. Divided hypoglossal canal:** L ___ R ___
0 = absent
1 = partial, internal surface
2 = partial, within canal
3 = complete, internal surface
4 = complete, within canal
9 = unobservable

**11. Flexure of superior sagittal sulcus** ___
1 = right
2 = left
3 = bifurcate
9 = unobservable

**12. Foramen ovale incomplete** L ___ R ___
0 = absent
1 = partial formation
2 = no definition of foramen
9 = unobservable

**13. Foramen spinosum incomplete** L ___ R ___
0 = absent
1 = partial formation
2 = no definition of foramen
9 = unobservable

**14. Pterygo-spinous bridge** L ___ R ___
0 = absent
1 = trace (spicule only)
2 = partial bridge
3 = complete bridge
9 = unobservable

**15. Pterygo-alar bridge** L ___ R ___
0 = absent
1 = trace (spicule only)
2 = partial bridge
3 = complete bridge
9 = unobservable

**16. tympanic dehiscence:** L ___ R ___
0 = absent
1 = foramen only
2 = full defect present
9 = unobservable

Provenience _____ Numeric I.D. _____ ASM 8/24/04 Form 7b

| | L | R |
|---|---|---|
| **17. Auditory exostosis:** | | |
| 0 = absent<br>1 = < 1/3 canal occluded<br>2 = 1/3-2/3 canal occluded<br>3 = > 2/3 canal occluded<br>9 = unobservable | ___ | ___ |
| **18. Mastoid foramen:** | | |
| **a. Location**<br>0 = absent<br>1 = temporal<br>2 = sutural<br>3 = occipital<br>4 = both sutural and temporal<br>5 = both occipital and temporal<br>9 = unobservable | ___ | ___ |
| **b. Number:**<br>0 = absent<br>1 = 1<br>2 = 2<br>3 = more than 2<br>9 = unobservable | ___ | ___ |
| **19. Mental foramen:**<br>0 = absent<br>1 = 1<br>2 = 2<br>3 = more than 2<br>9 = unobservable | ___ | ___ |
| **20. Mandibular torus:**<br>0 = absent<br>1 = trace (can palpate but not see)<br>2 = moderate: elevation between 2-5 mm.<br>3 = marked: elevation greater than 5 mm.<br>9 = unobservable | ___ | ___ |
| **21. Mylohyoid bridge:** | | |
| **a. Location**<br>0 = absent<br>1 = near mandibular foramen<br>2 = center of groove<br>3 = both bridges described in 1) and 2 ), with hiatus<br>4 = both bridges described in 1) and 2 ), no hiatus<br>9 = unobservable | ___ | ___ |
| **b. Degree**<br>0 = absent<br>1 = partial<br>2 = complete<br>9 = unobservable | ___ | ___ |
| **22. Atlas Bridging:** | | |
| **a. Lateral bridging**<br>0 = absent<br>1 = partial<br>2 = complete<br>9 = unobservable | ___ | ___ |
| **b. Posterior bridging**<br>0 = absent<br>1 = partial<br>2 = complete<br>9 = unobservable | ___ | ___ |

| | L | R |
|---|---|---|
| **23. Accessory Transverse Foramina -- in 7th cervical vertebra**<br>0 = absent<br>1 = partial<br>2 = complete<br>9 = unobservable | ___ | ___ |
| **24. Septal aperture:**<br>0 = absent<br>1 = small foramen (pinhole) only<br>2 = true perforation<br>9 = unobservable | ___ | ___ |

## CRANIAL MEASUREMENTS (in mm, left side for bilateral measurements unless noted as R)

1. Max. cranial length _____
2. Max. cranial breadth _____
3. Bizygomatic diameter _____
4. Basion-bregma height _____
5. Cranial base length _____
6. Basion-prosthion length _____
7. Maxillo-alveolar breadth _____
8. Maxillo-alveolar length _____
9. Biauricular breadth _____
10. Upper facial height _____
11. Minimum frontal breadth _____
12. Upper facial breadth _____
13. Nasal height _____
14. Nasal breadth _____
15. Orbital breadth _____
16. Orbital height _____
17. Biorbital breadth _____
18. Interorbital breadth _____
19. Frontal chord _____
20. Parietal chord _____
21. Occipital chord _____
22. Foramen magnum length _____
23. Foramen magnum breadth _____
24. Mastoid length _____
25. Chin height _____
26. Height of the mandibular body _____
27. Breadth of the mandibular body _____
28. Bigonial width _____
29. Bicondylar breadth _____
30. Minimum ramus breadth _____
31. Maximum ramus breadth _____
32. Maximum ramus height _____
33. Mandibular length _____
34. Mandibular angle _____

# CRANIAL DEFORMATION RECORDING FORM

**GENERAL CATEGORY:** _____
1. Tabular
2. Circumferential
3. Other (describe)

## POSTERIOR ASPECT

Cranial deformation present: _____
1. yes
2. no

Pressure was centered at: _____
1. Lambda
2. Squamous portion of occipital
3. Below inion

Plane of pressure in relationship to transverse plane: _____
1. Perpendicular (90°)
2. Obtuse (>90°)

Are any of the following present? _____
1. Sagittal elevation
2. Lambdic elevation
3. Lambdic depression

Pad impressions: _____
0. No pad impressions
1. One pad
2. Two pads
3. More than two pads

Pad location: _____
1. Midline
2. Symmetrically lateral to midline
3. Asymmetrically left
4. Asymmetrically right

Pad shape: _____
1. Circular or oval
2. Donut-shaped
3. Triangular
4. Irregular form
5. Not observable

Impression of bindings visible: _____
1. Yes (describe below)
2. No

## ANTERIOR ASPECT

Cranial deformation present: _____
1. Yes
2. No

Pad location: _____
1. High, near coronal suture
2. Low, near or below frontal boss

Symmetrical reshaping? _____
1. Yes
2. No, right side more deformed
3. No, left side more deformed

Bregmatic elevation? _____
1. Yes
2. No

Pad impressions: _____
0. No pad impressions
1. One pad
2. Two pads
9. Not observable

Pad location: _____
1. Midline
2. Symmetrically lateral to midline
3. Asymmetrically left
4. Asymmetrically right

Pad shape: _____
1. Circular or oval
2. Donut-shaped
3. Triangular
4. Irregular form
5. Not observable

Impression of bindings visible: _____
1. Yes (describe below)
2. No

Post-coronal depression present? _____
1. Yes
2. No

# PATHOLOGY CHECKLIST

| **Cranial** | present | absent | unobservable |
|---|---|---|---|
| Porotic hyperostosis | ____ | ____ | ____ |
| Cribra orbitalia | ____ | ____ | ____ |
| Premature synostosis | ____ | ____ | ____ |
| osteomas | ____ | ____ | ____ |
| periosteal reaction | ____ | ____ | ____ |
| lytic reactions | ____ | ____ | ____ |
| proliferative reactions | ____ | ____ | ____ |
| trauma | ____ | ____ | ____ |
| cultural modifications | ____ | ____ | ____ |

| **Axial** | present | absent | unobservable |
|---|---|---|---|
| ankylosis | ____ | ____ | ____ |
| arch defects | ____ | ____ | ____ |
| compression fractures | ____ | ____ | ____ |
| Schmorl's nodes | ____ | ____ | ____ |
| periosteal reactions | ____ | ____ | ____ |
| lytic reactions | ____ | ____ | ____ |
| osteoporosis | ____ | ____ | ____ |
| trauma | ____ | ____ | ____ |

| **Appendicular** | present | absent | unobservable |
|---|---|---|---|
| periosteal reaction | ____ | ____ | ____ |
| lytic reactions | ____ | ____ | ____ |
| proliferative reactions | ____ | ____ | ____ |
| osteoporosis | ____ | ____ | ____ |
| trauma | ____ | ____ | ____ |
| cultural modifications | ____ | ____ | ____ |
| osteomyelitis | ____ | ____ | ____ |
| exostoses | ____ | ____ | ____ |

| **Extremities** | present | absent | unobservable |
|---|---|---|---|
| lytic reactions | ____ | ____ | ____ |
| proliferative reactions | ____ | ____ | ____ |
| periosteal reactions | ____ | ____ | ____ |
| trauma | ____ | ____ | ____ |
| exostoses | ____ | ____ | ____ |

**Notes:**

# DEGENERATIVE JOINT DISEASE

## SKULL

| element | left | right |
|---|---|---|
| TMJ | ____ | ____ |
| Mand. condyles | ____ | ____ |
| Occip. Condyles | ____ | ____ |

## SHOULDER

| | | |
|---|---|---|
| Scapula | | |
| glenoid | ____ | ____ |
| acromium | ____ | ____ |
| Clavicle | | |
| medial | ____ | ____ |
| lateral | ____ | ____ |
| Prox. Humerus | ____ | ____ |

## PHALANGES

| element | prox. | distal |
|---|---|---|
| C. proximal | ____ | ____ |
| C. middle | ____ | ____ |
| C. distal | ____ | ____ |
| T. proximal | ____ | ____ |
| T. middle | ____ | ____ |
| T. distal | ____ | ____ |

## KNEES

| element | left | right |
|---|---|---|
| Dist. Femur | ____ | ____ |
| Prox. Tibia | ____ | ____ |
| Prox. Fibula | ____ | ____ |
| Patella | ____ | ____ |

## ELBOW

| element | left | right |
|---|---|---|
| Dist. Humerus | ____ | ____ |
| Prox. Radius | ____ | ____ |
| Prox. Ulna | ____ | ____ |

## WRIST

| element | left | right |
|---|---|---|
| Dist. Radius | ____ | ____ |
| Dist. Ulna | ____ | ____ |
| Carpals | ____ | ____ |
| Metacarpals | ____ | ____ |

## HIP

| element | left | right |
|---|---|---|
| Acetabulum | ____ | ____ |
| Femoral head | ____ | ____ |
| Greater troch. | ____ | ____ |
| Lesser troch. | ____ | ____ |

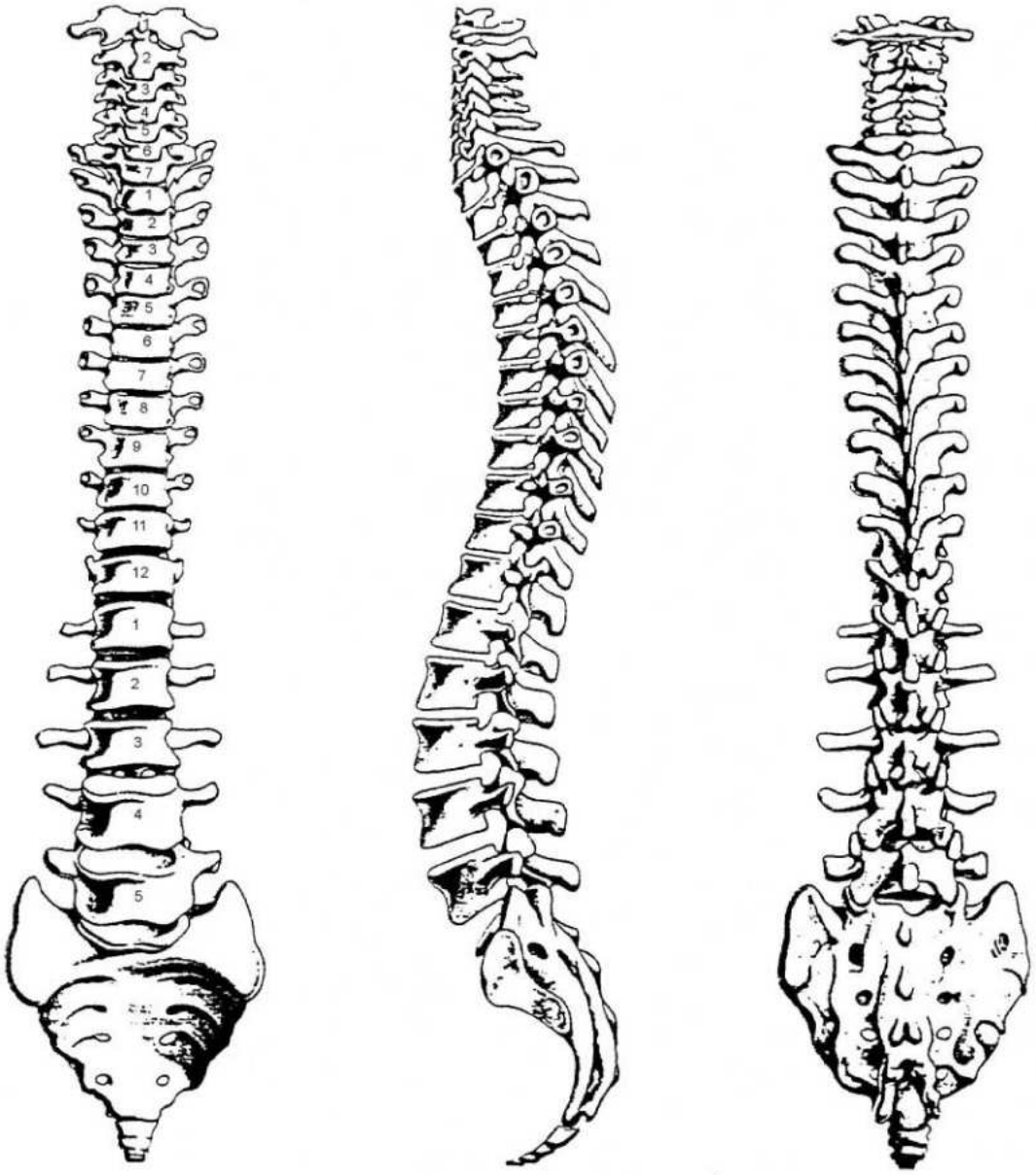
## ANKLES

| element | left | right |
|---|---|---|
| Dist. Tibia | ____ | ____ |
| Dist. Fibula | ____ | ____ |
| Calcaneus | ____ | ____ |
| Other tarsals | ____ | ____ |
| Metatarsals | ____ | ____ |

Stages of DJD from Ubelaker (1999). a = normal articular surface; b= appearance of small deposits of bone on articular margins; c= small pits; d= polishing/eburnation; e= other (describe below)

## NOTES

# SPINAL OSTEOPHYTOSIS RECORDING FORM



**Osteophytosis** - stages 0-4 (Ubelaker 1999)

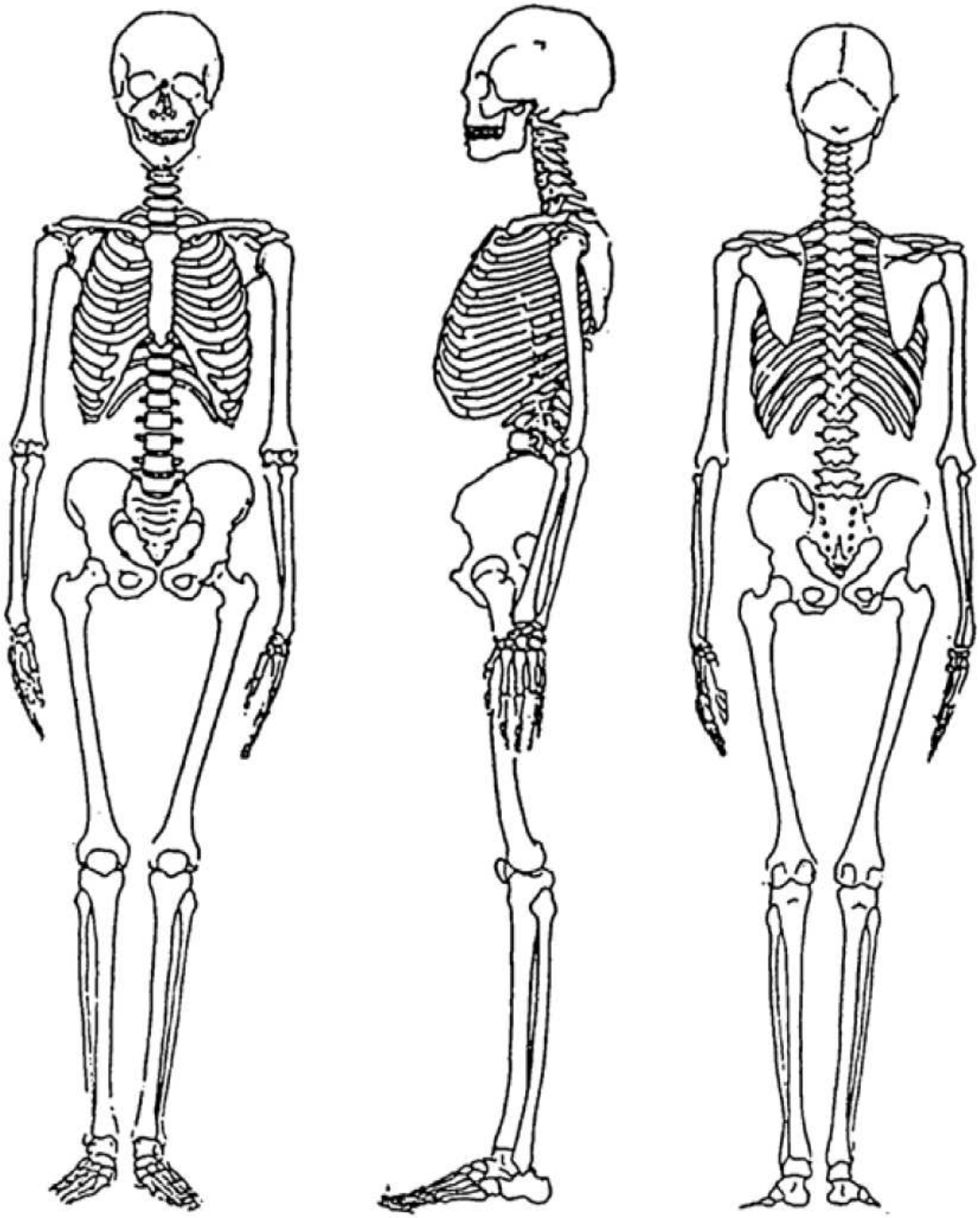
| Vertebral Category | Superior Surface | Inferior Surface |
|---|---|---|
| Cervical | _____ | _____ |
| Thoracic | _____ | _____ |
| Lumbar | _____ | _____ |

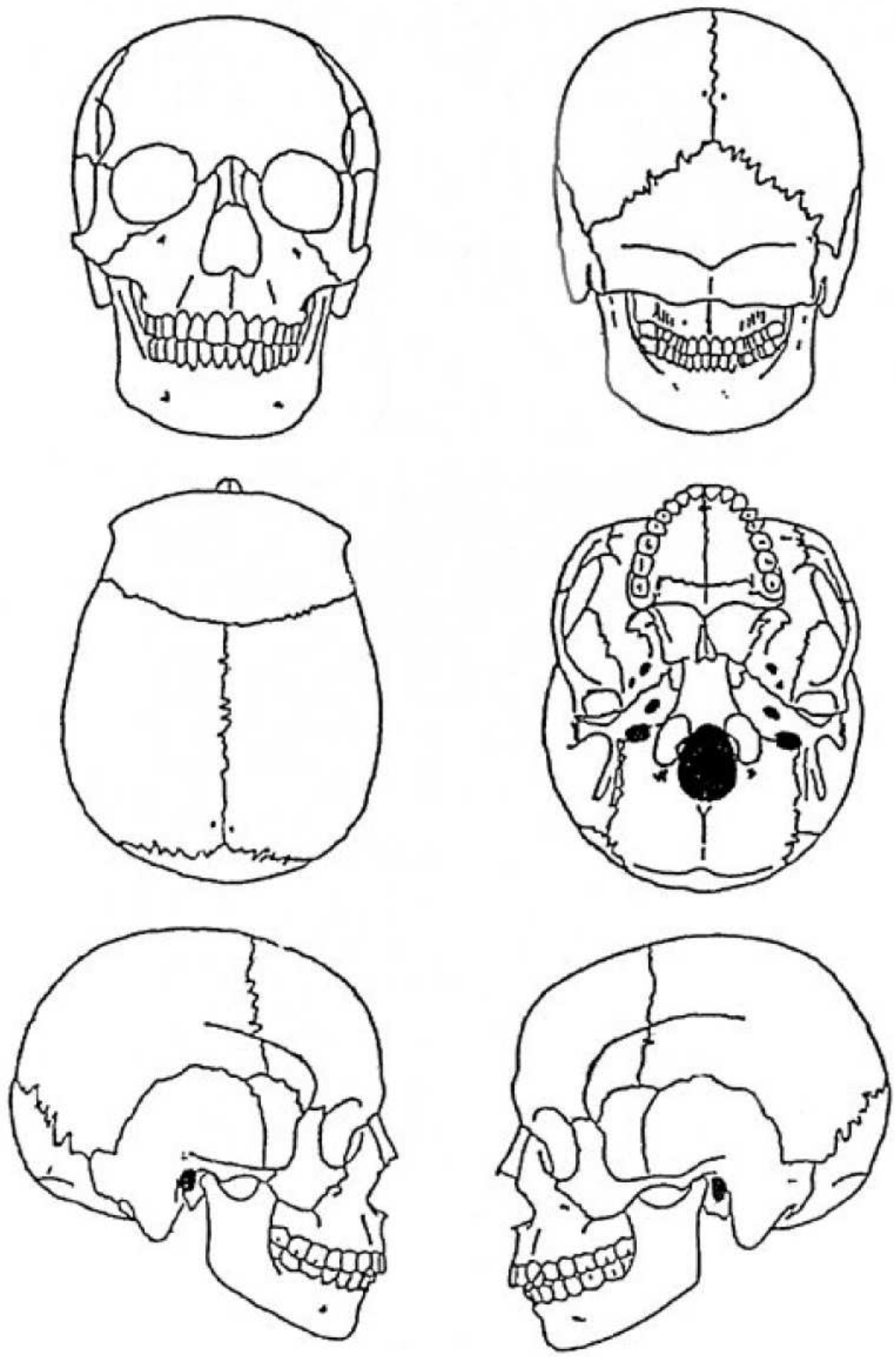
**Degenerative Joint Disease (Vertebral Articular Surfaces)** – stages a-d (Ubelaker 1999)

| Vertebral Category | Superior Surface | | Inferior Surface | |
|---|---|---|---|---|
| | Left | Right | Left | Right |
| Cervical | ____ | ____ | ____ | ____ |
| Thoracic | ____ | ____ | ____ | ____ |
| Lumbar | ____ | ____ | ____ | ____ |
| Sacral | ____ | ____ | | |

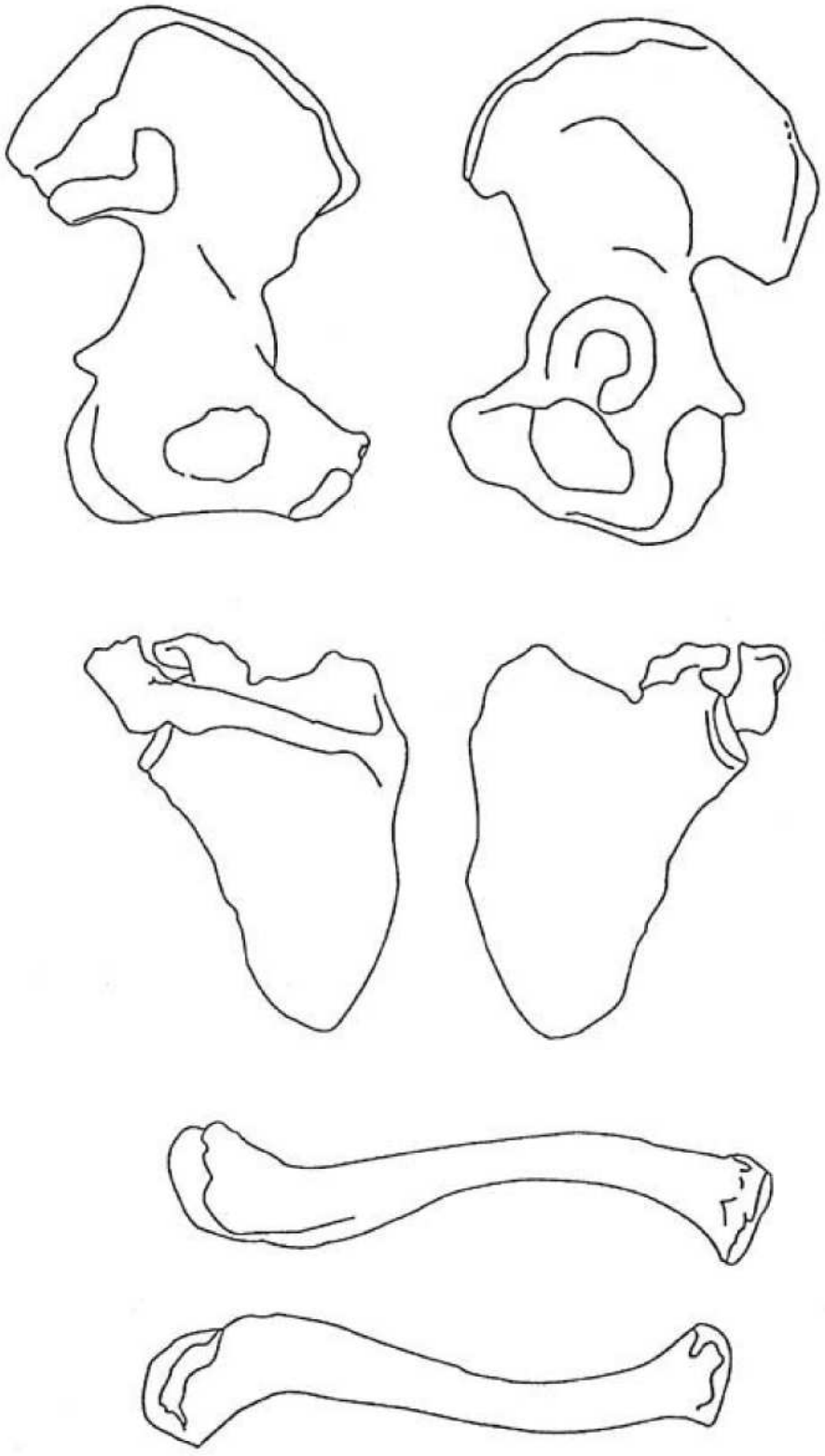
**NOTE:** If condition varies, bracket & note areas of major differences on graph. Applies to both DJD & osteophytosis.

# ADULT SKELETON

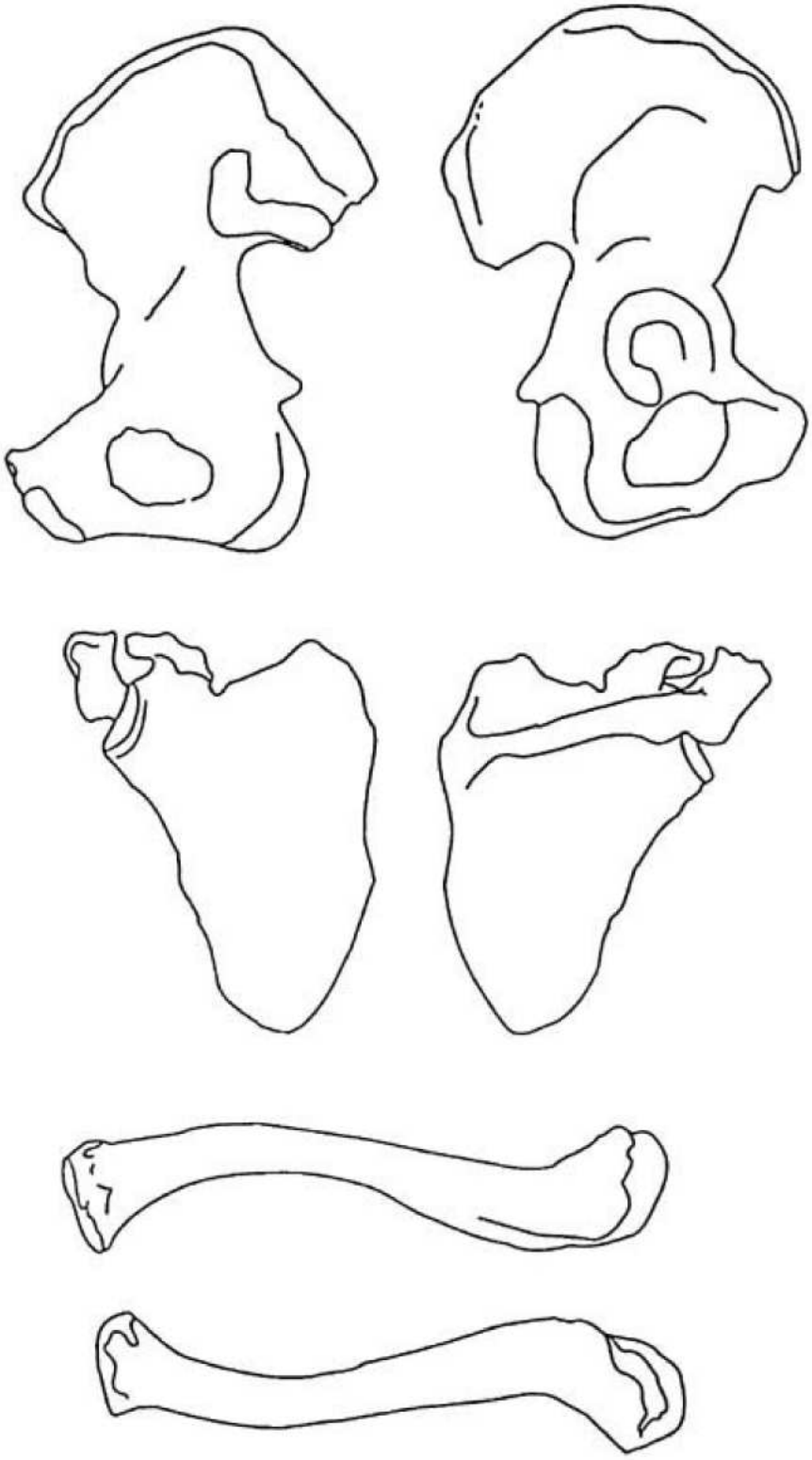




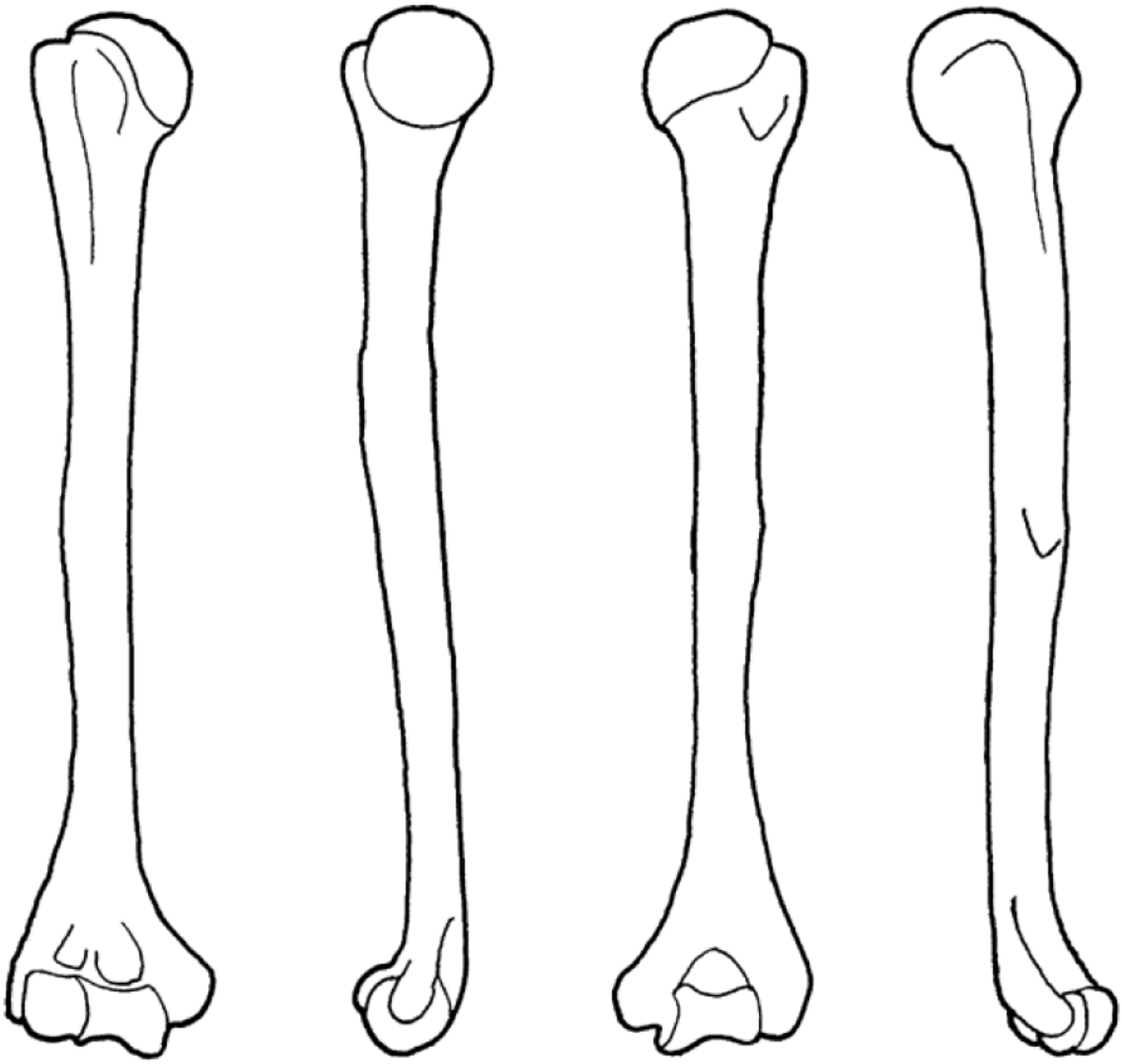
## LEFT ILIUM, SCAPULA, CLAVICLE



## RIGHT ILIUM, SCAPULA, CLAVICLE



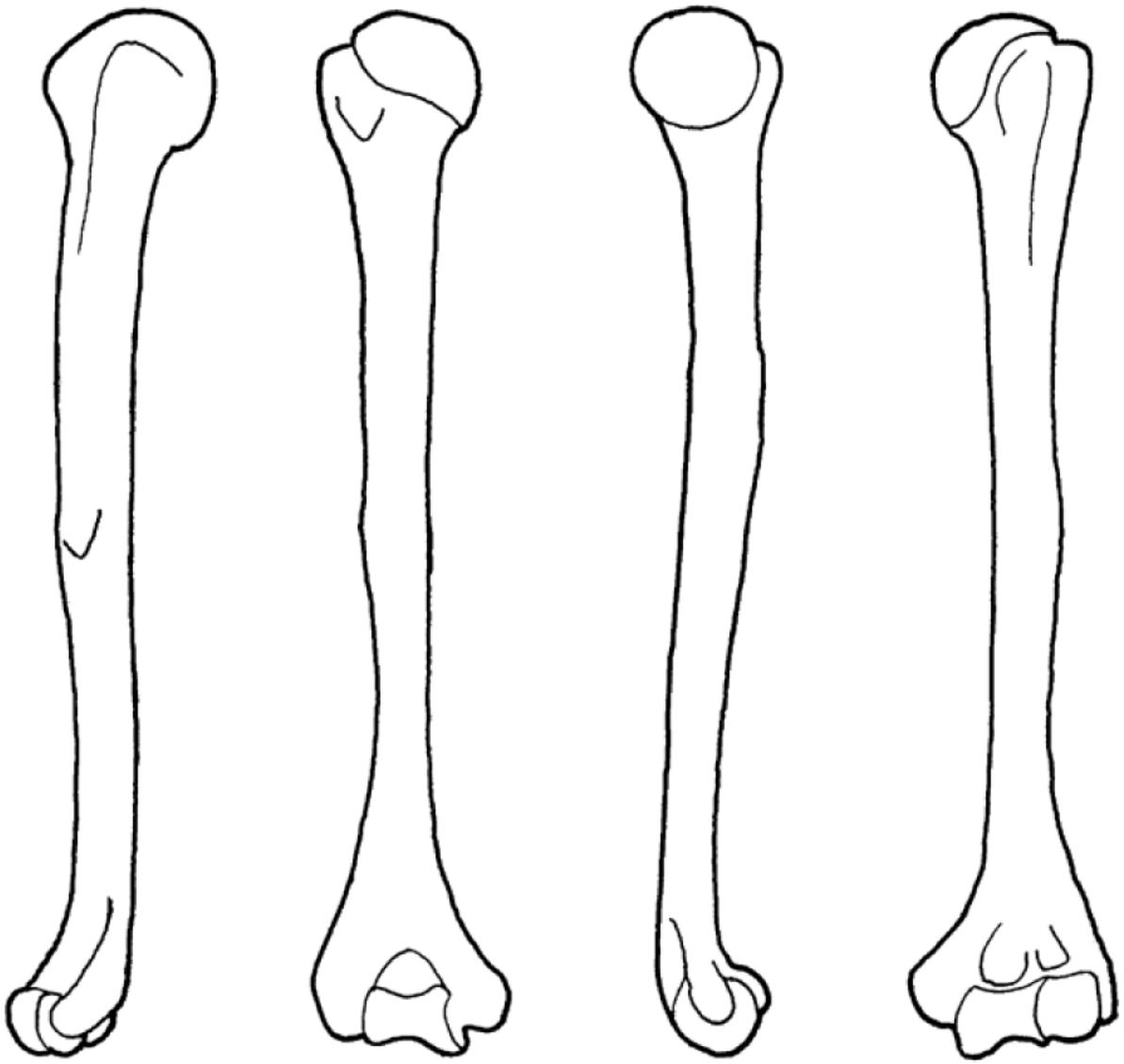
# RIGHT HUMERUS



anterior medial posterior lateral

**Notes:**

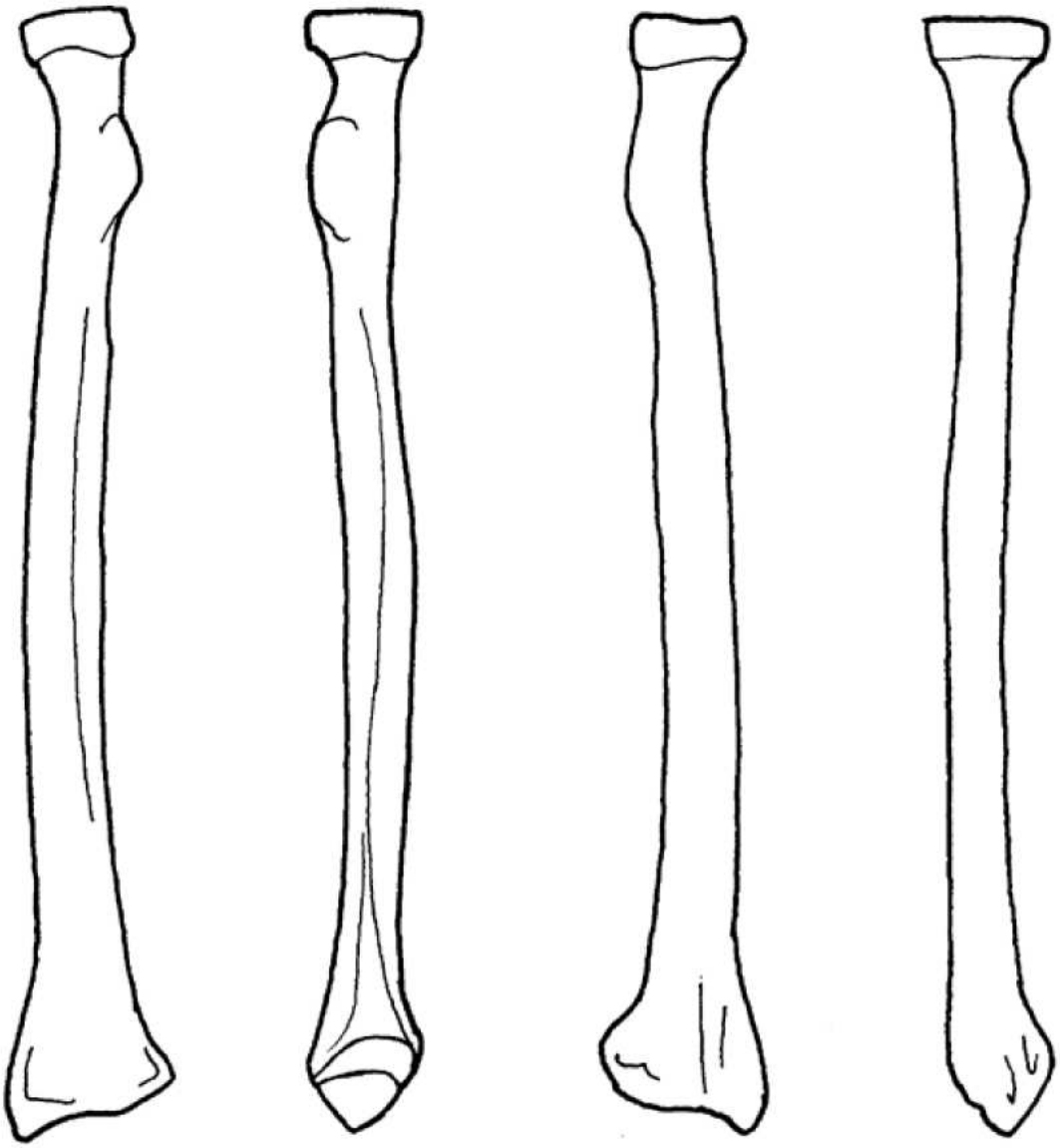
# LEFT HUMERUS



**lateral** **posterior** **medial** **anterior**

**Notes:**

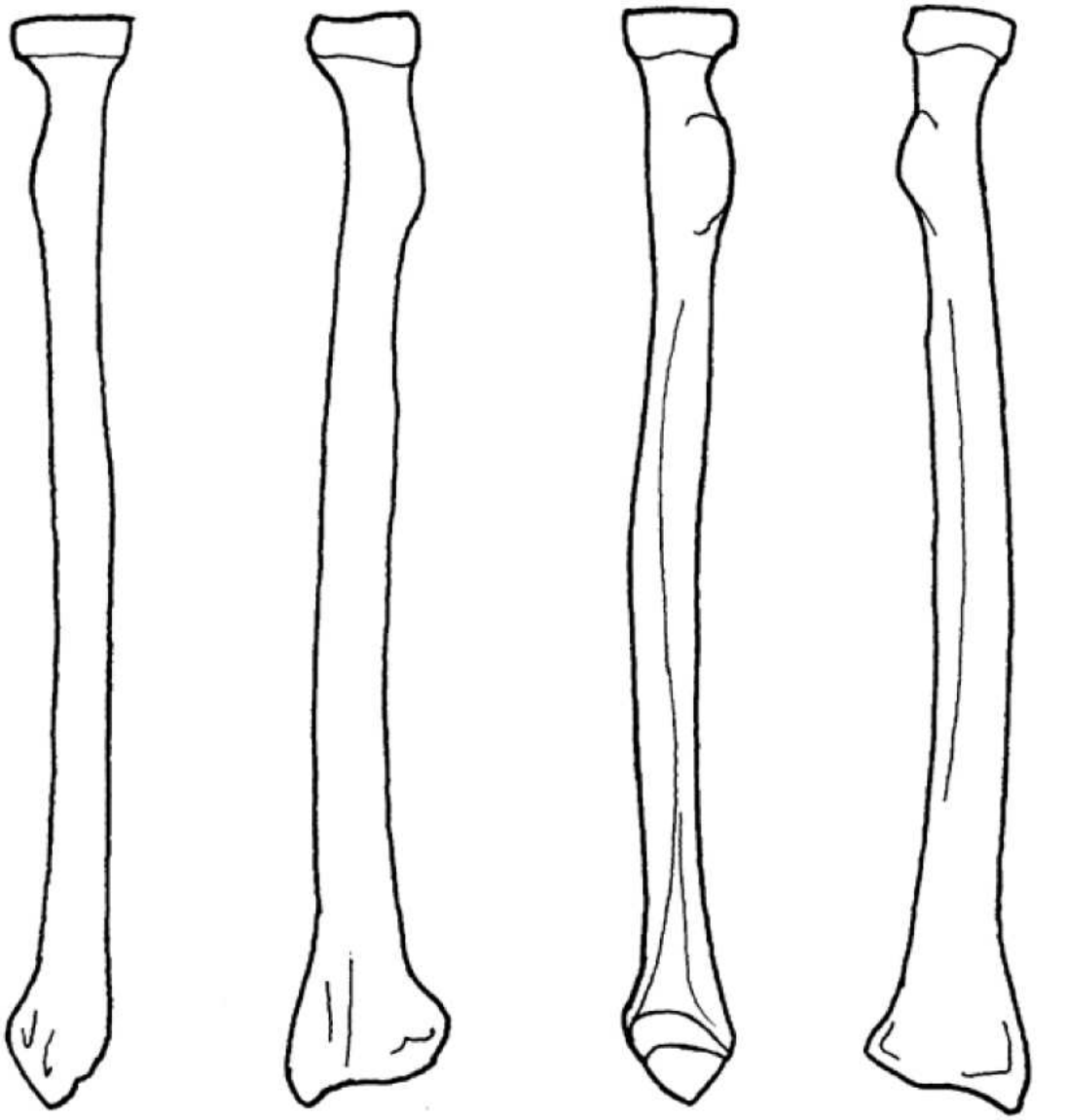
## RIGHT RADIUS



**anterior** **medial** **posterior** **lateral**

**Notes:**

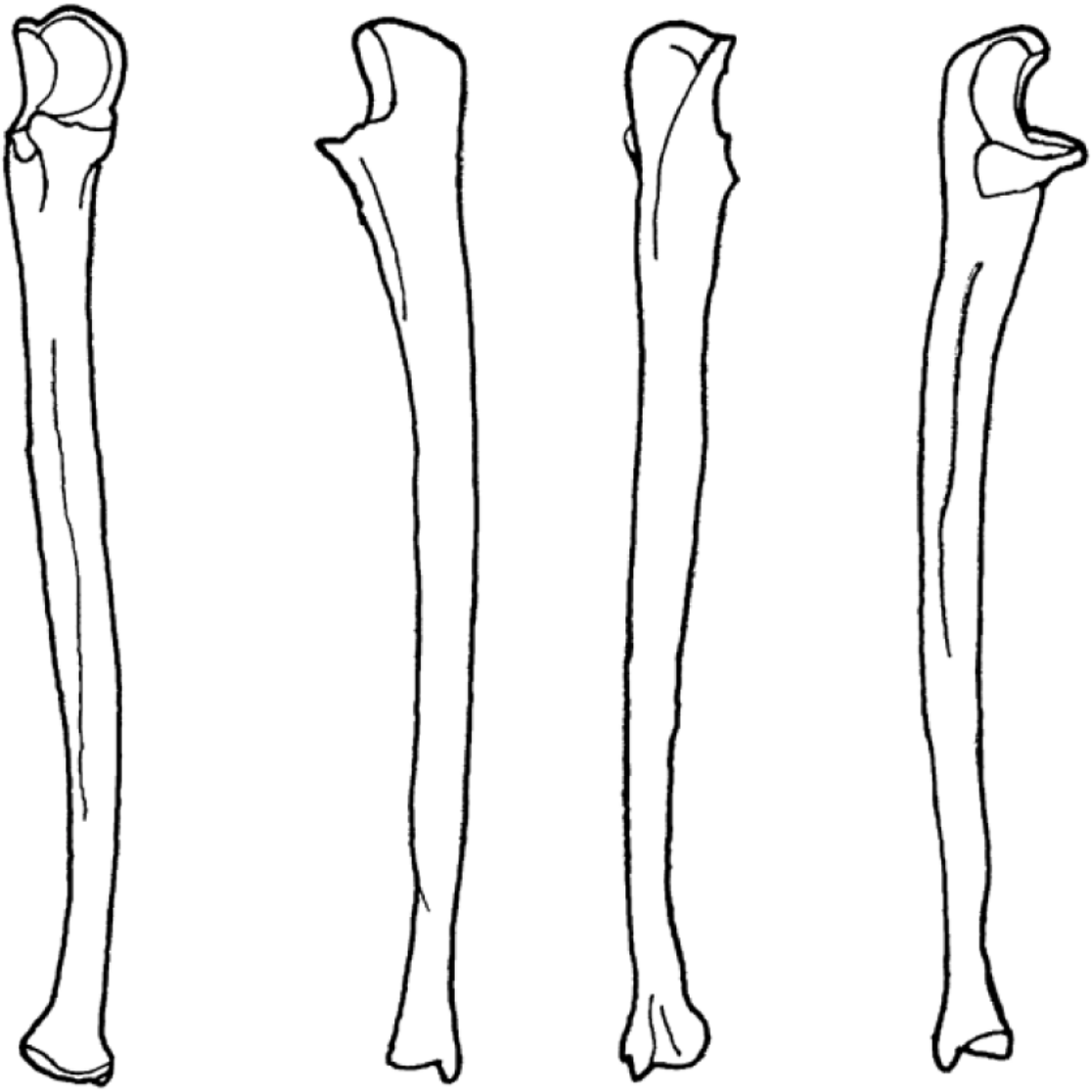
## LEFT RADIUS



**lateral** **posterior** **medial** **anterior**

**Notes:**

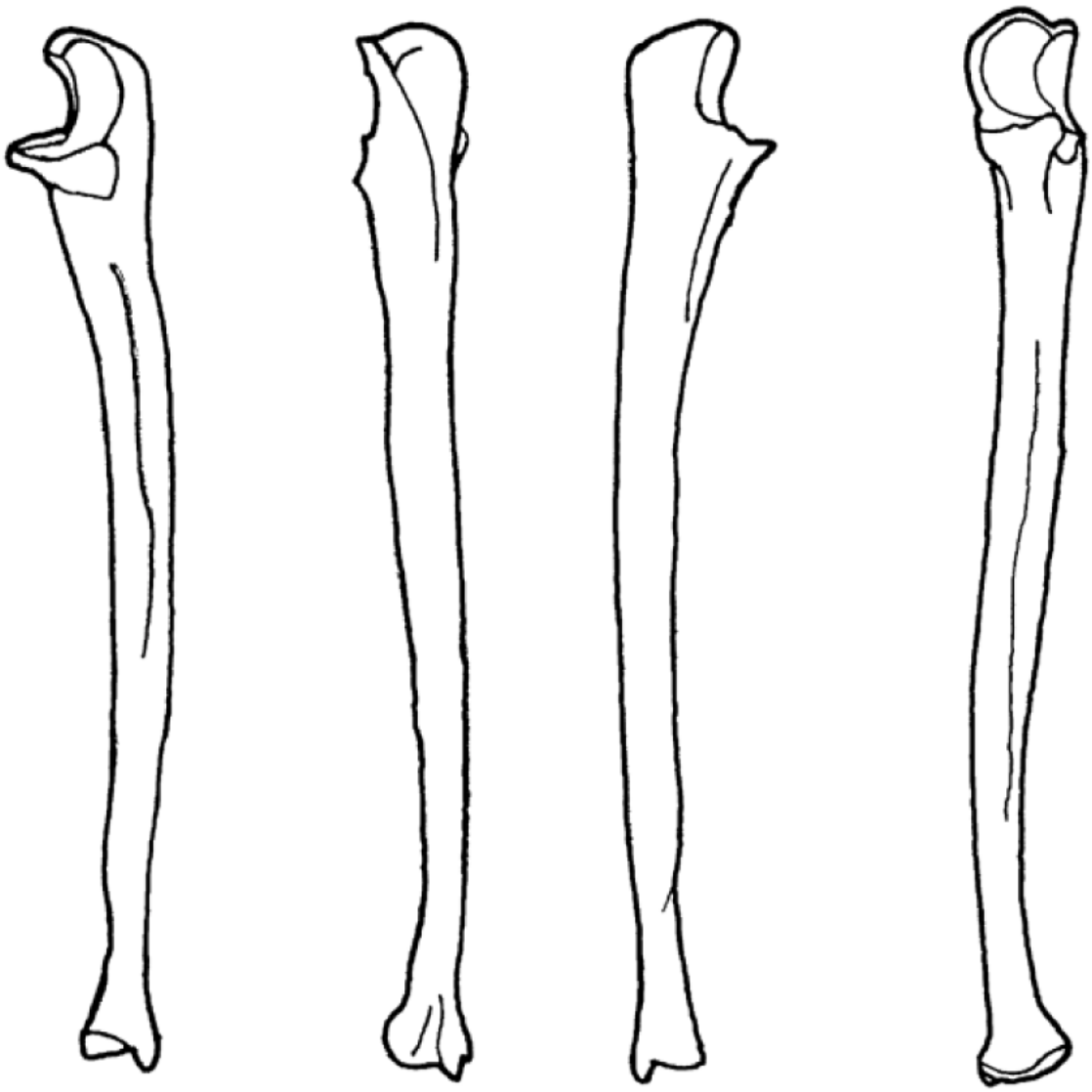
# RIGHT ULNA



**anterior** **medial** **posterior** **lateral**

**Notes:**

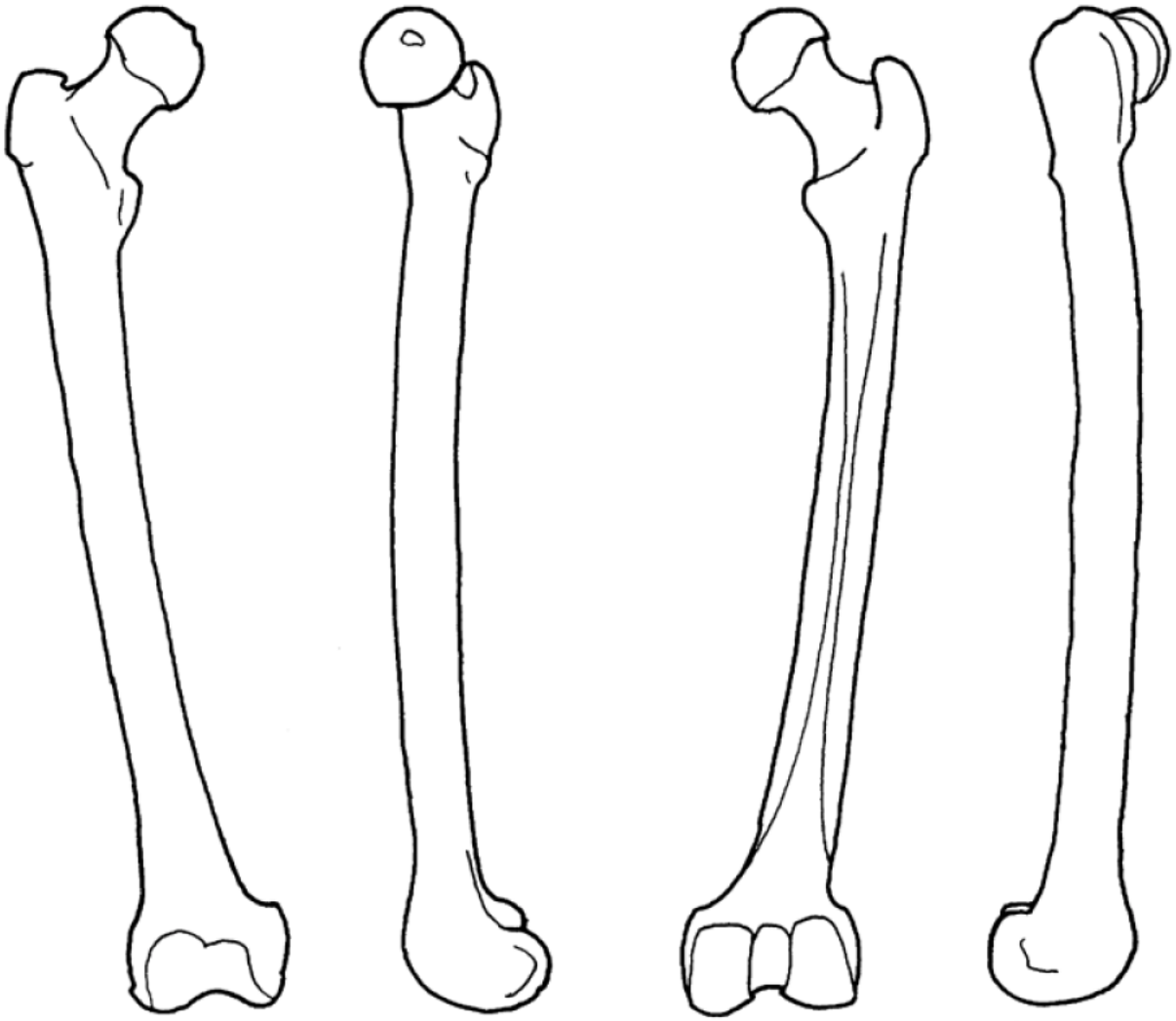
# LEFT ULNA



**lateral** **posterior** **medial** **anterior**

**Notes:**

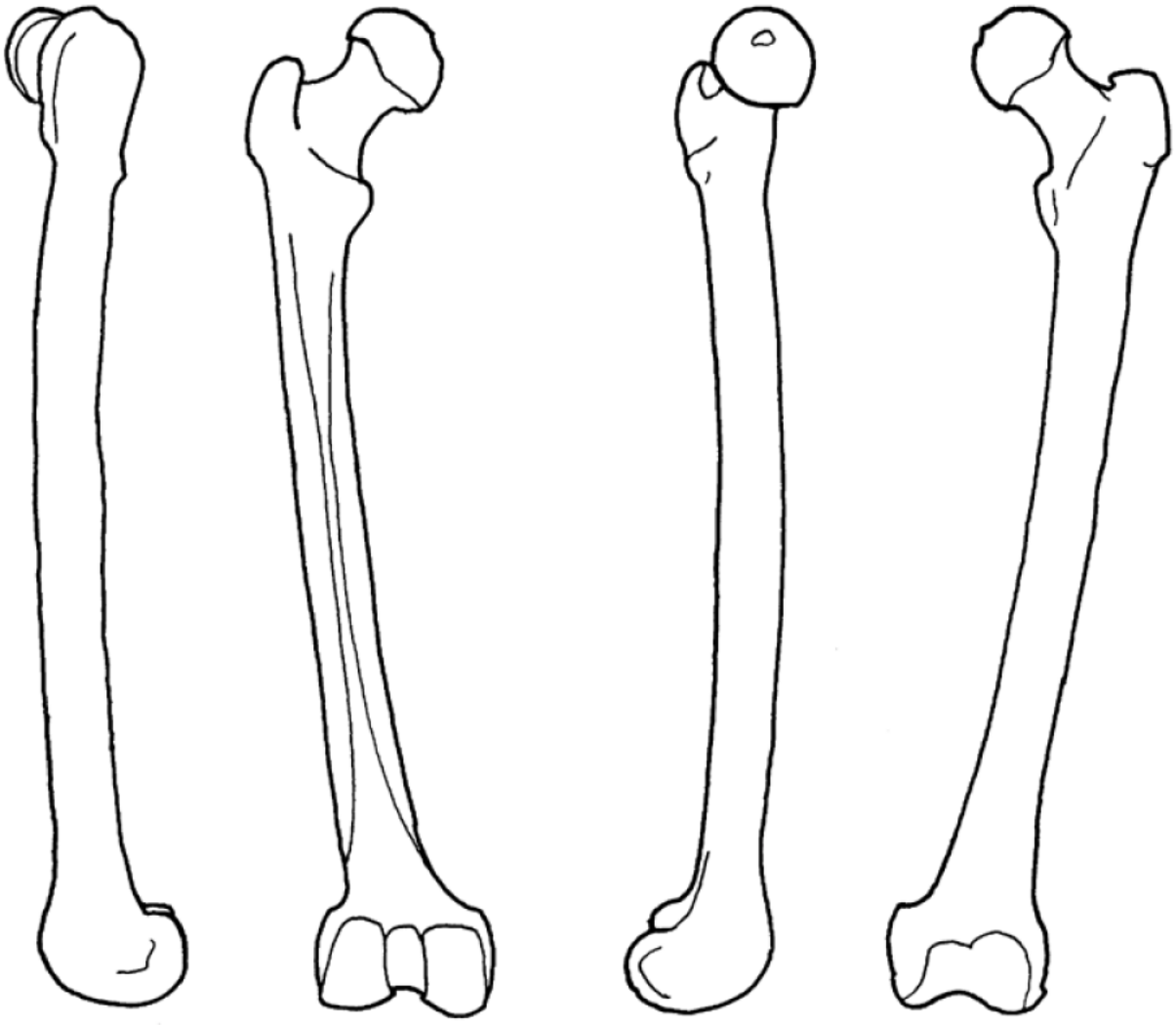
## RIGHT FEMUR



**anterior** **medial** **posterior** **lateral**

**Notes:**

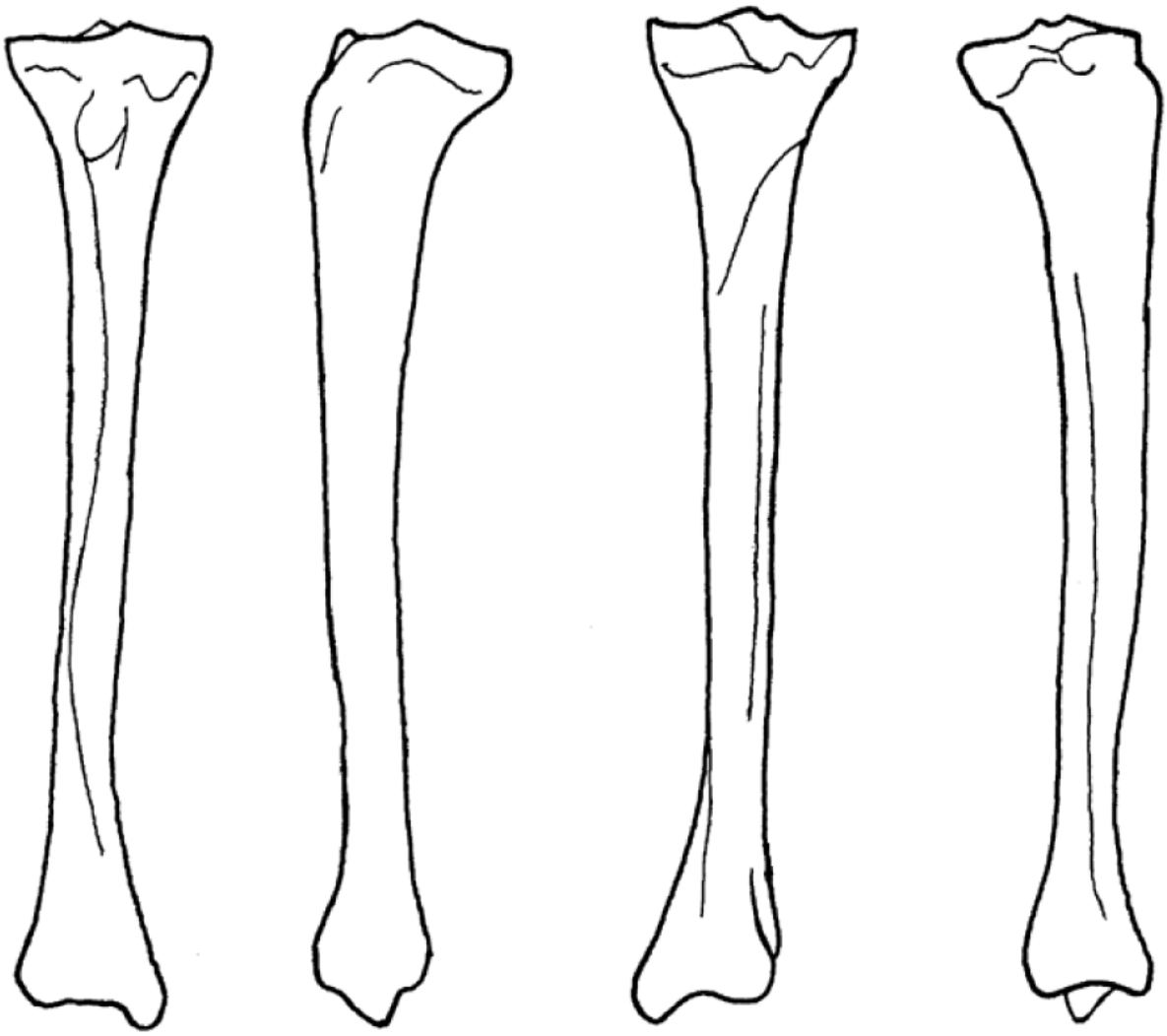
# LEFT FEMUR



**lateral** **posterior** **medial** **anterior**

**Notes:**

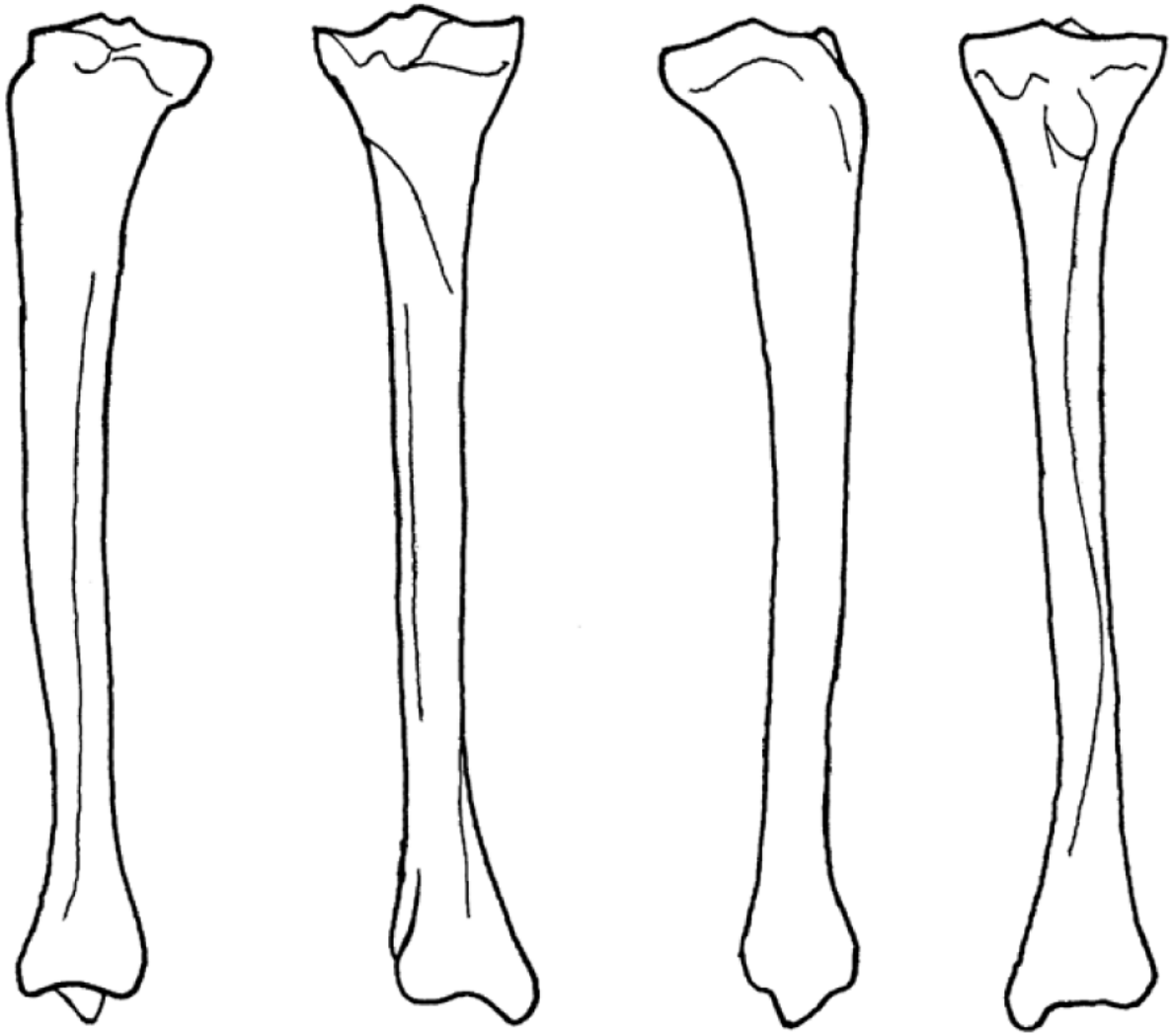
# RIGHT TIBIA



**anterior** **medial** **posterior** **lateral**

**Notes:**

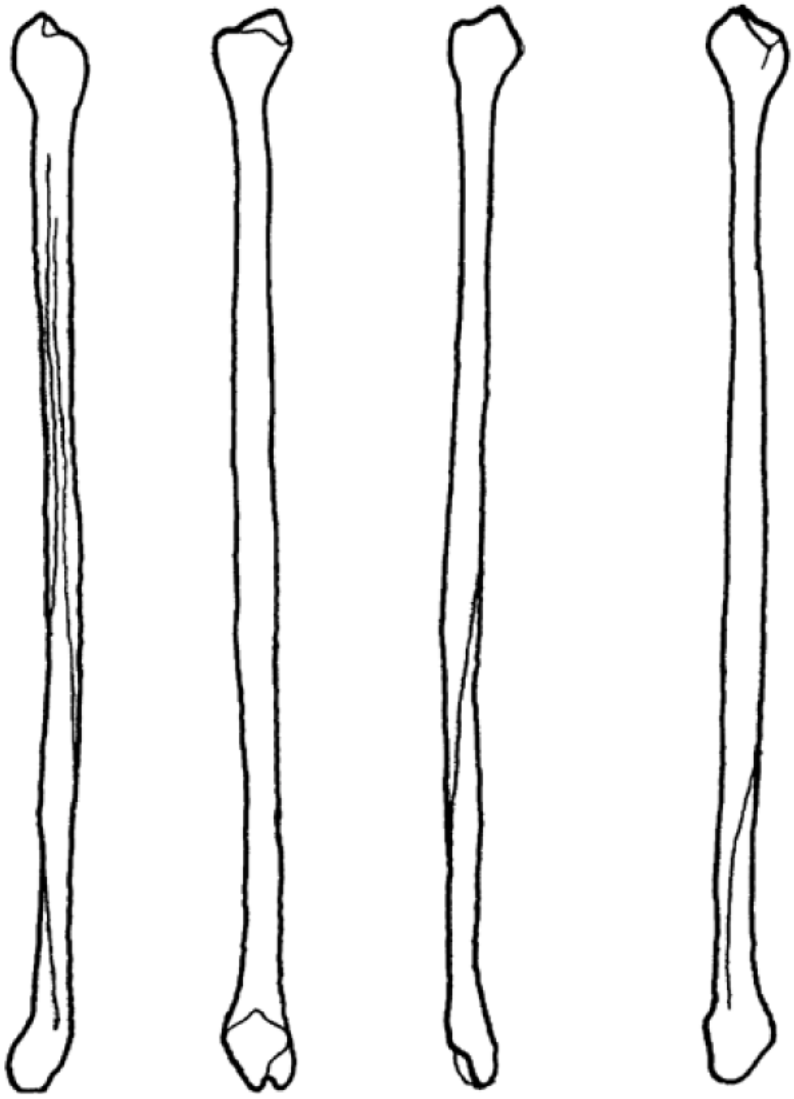
# LEFT TIBIA



**lateral** **posterior** **medial** **anterior**

**Notes:**

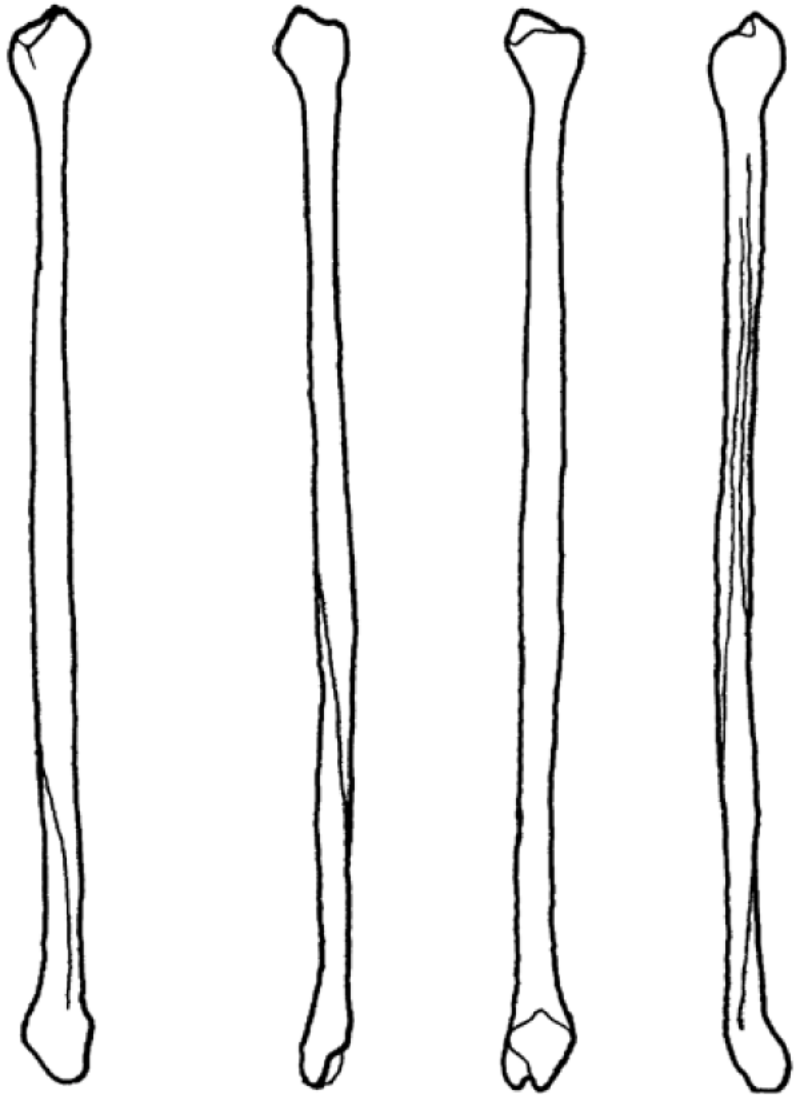
# RIGHT FIBULA



**anterior** **medial** **posterior** **lateral**

**Notes:**

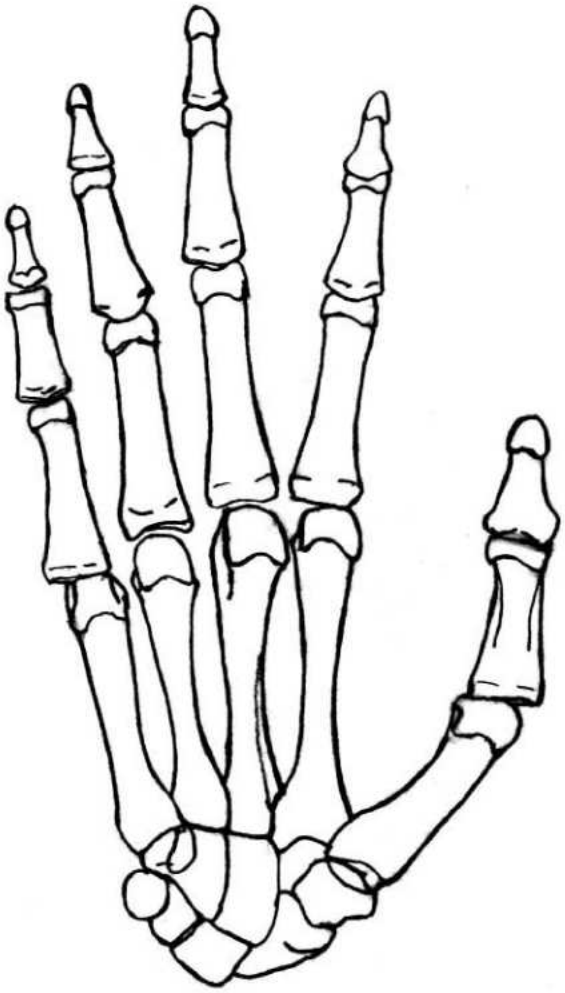
# LEFT FIBULA



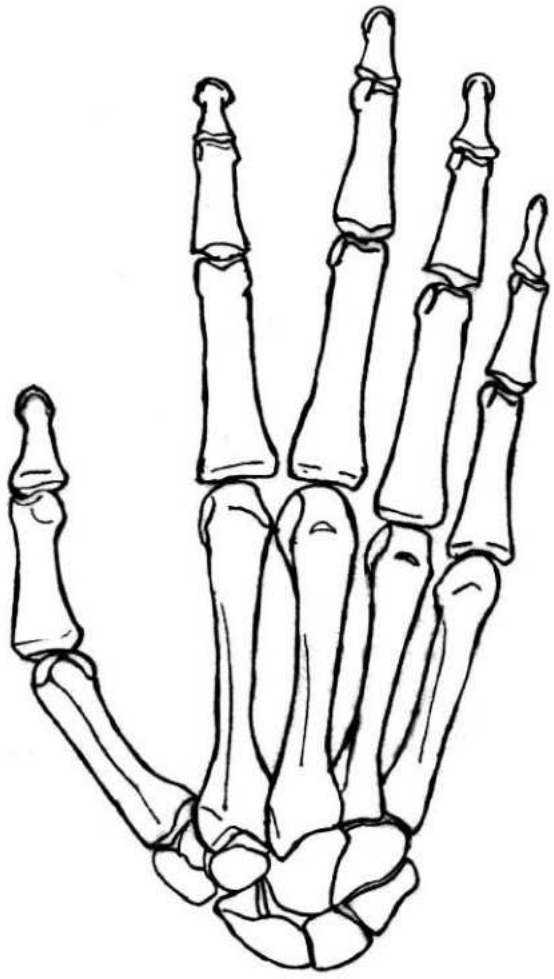
**lateral** **posterior** **medial** **anterior**

**Notes:**

**RIGHT HAND**

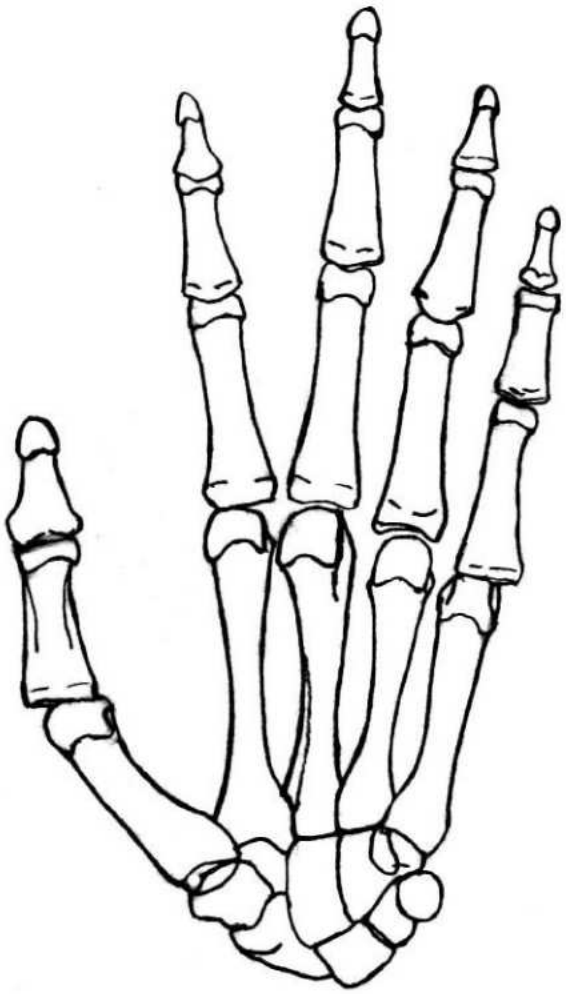


**palmar**

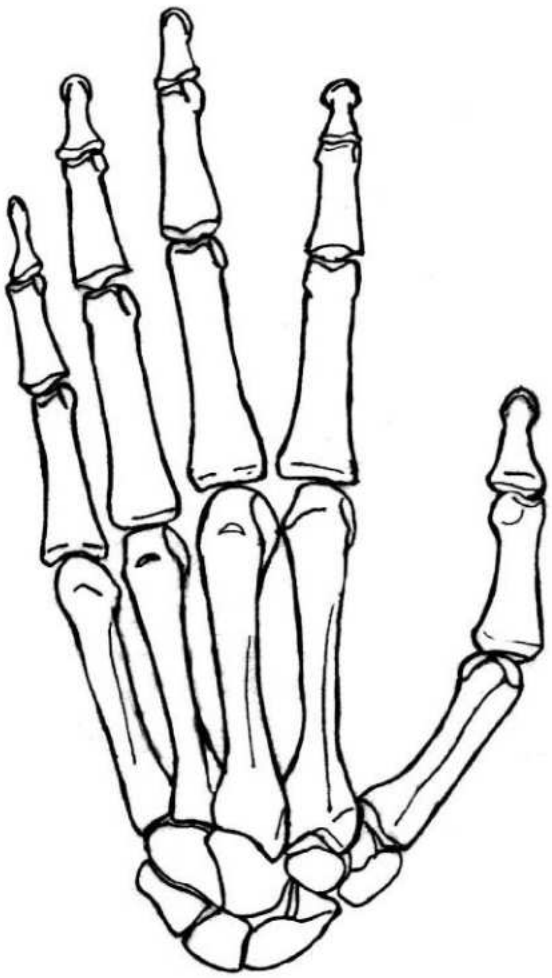


**volar**

## LEFT HAND



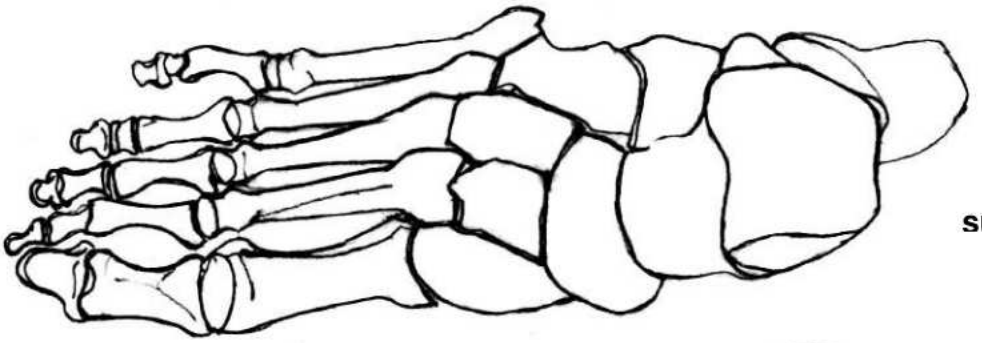
palmar



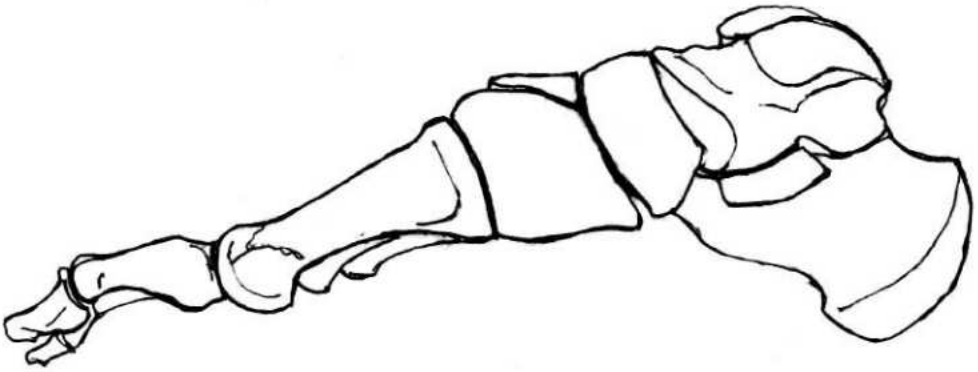
volar

Provenience _____ Numeric I.D. _____ ASM 8/24/04 Form 29a

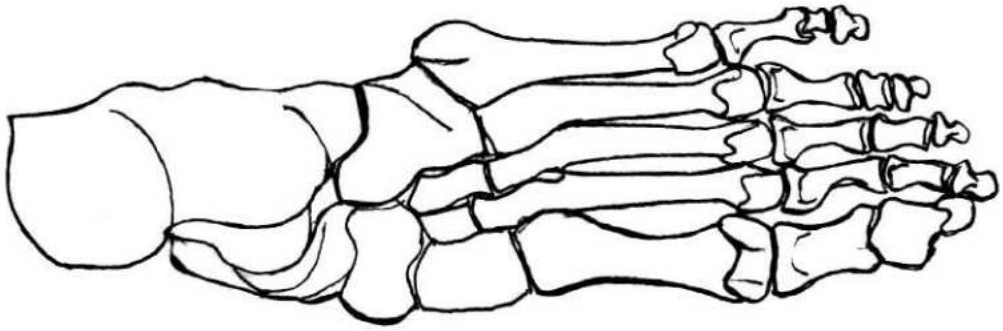
# RIGHT FOOT



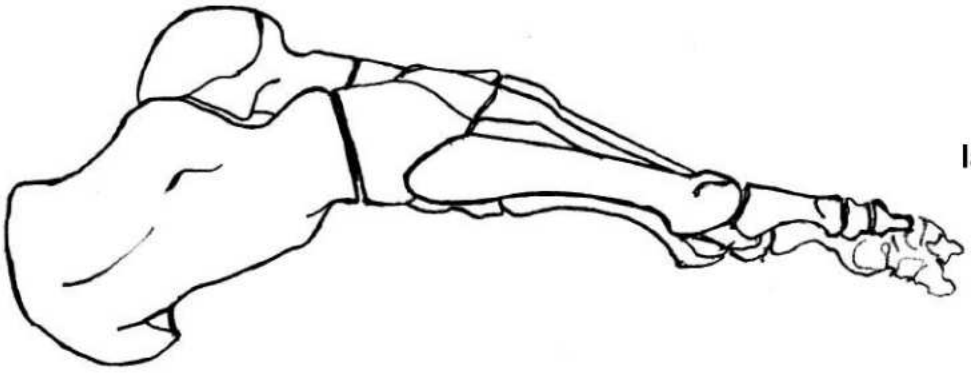
superior



medial



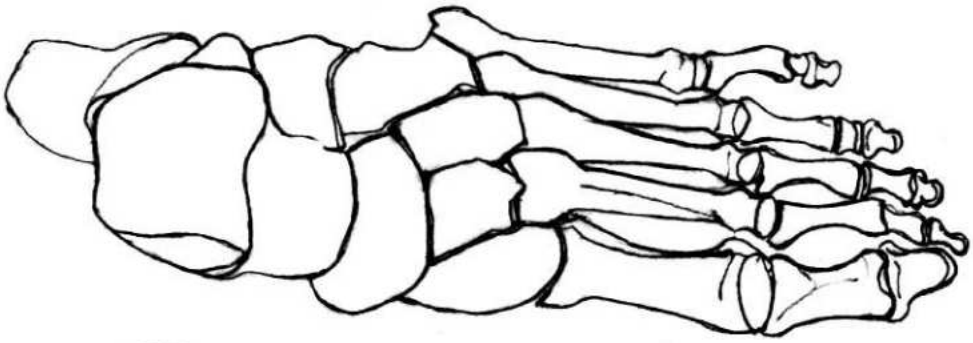
inferior



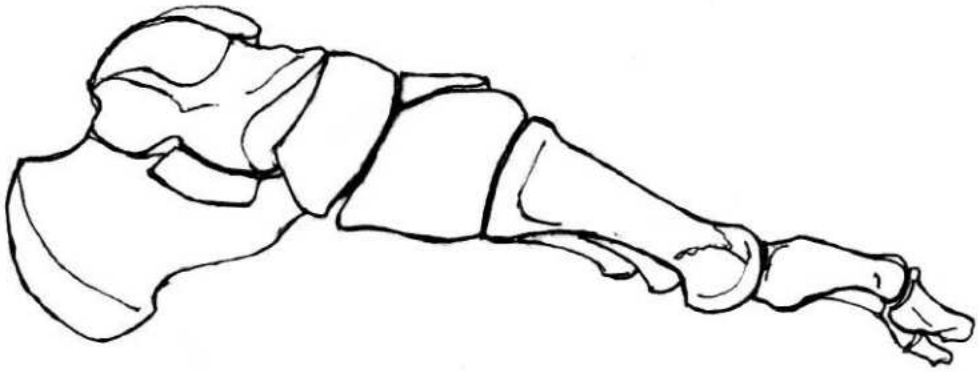
lateral

# LEFT FOOT

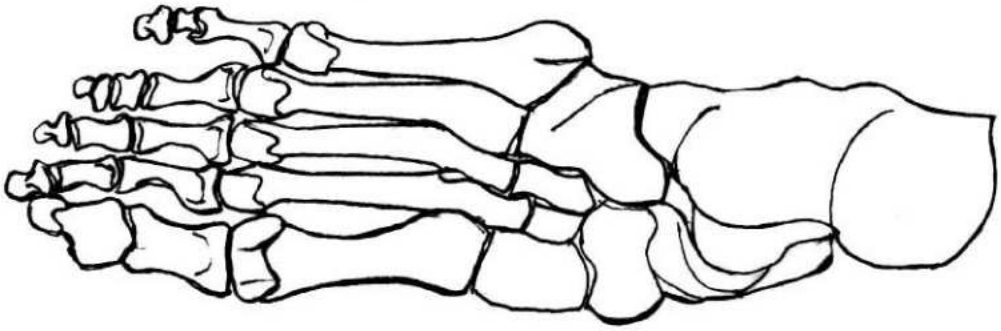
superior



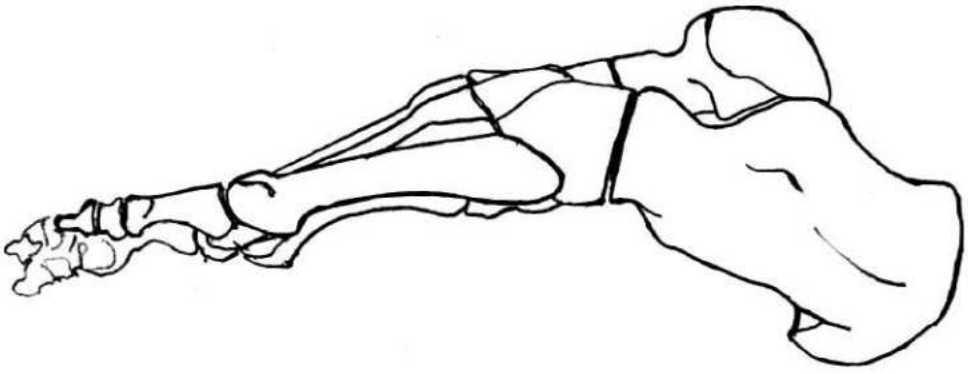
medial



inferior



lateral



# IMMATURE REMAINS: EPIPHYSEAL UNION & AGE ASSESSMENT

**Epiphyseal Union**

| element | epiphysis | stage of union | |
|---|---|---|---|
| | | left | right |
| Cervical vertebrae | superior | _____ | |
| | inferior | _____ | |
| Thoracic vertebrae | superior | _____ | |
| | inferior | _____ | |
| Lumbar vertebrae | superior | _____ | |
| | inferior | _____ | |
| Scapula | coracoid | _____ | _____ |
| | acromium | _____ | _____ |
| Clavicle | sternal | _____ | _____ |
| Humerus | head | _____ | _____ |
| | distal | _____ | _____ |
| | medial epicondyle | _____ | _____ |
| Radius | proximal | _____ | _____ |
| | distal | _____ | _____ |
| Ulna | proximal | _____ | _____ |
| | distal | _____ | _____ |
| Innominate | iliac crest | _____ | _____ |
| | ischial tuberosity | _____ | _____ |
| Femur | head | _____ | _____ |
| | greater trochanter | _____ | _____ |
| | lesser trochanter | _____ | _____ |
| | distal | _____ | _____ |
| Tibia | proximal | _____ | _____ |
| | distal | _____ | _____ |
| Fibula | proximal | _____ | _____ |
| | distal | _____ | _____ |
| Metacarpals | proximal (1st) | _____ | |
| | distal (2-5) | _____ | |
| Metatarsals | proximal (1st) | _____ | |
| | dist (2-5) | _____ | |
| C. Phalanges | proximal | _____ | |
| T. Phalanges | proximal | _____ | |

**Primary Ossification Centers**

| element | area of union | stage of union |
|---|---|---|
| Innominate | ilium-pubis | _____ |
| | ischium-pubis | _____ |
| | ischium-ilium | _____ |
| Sacrum | 1-2 | _____ |
| | 2-3 | _____ |
| | 3-4 | _____ |
| | 4-5 | _____ |
| Cervical vertebrae | | |
| | neural arches to each other | _____ |
| | neural arches to centrum | _____ |
| Thoracic vertebrae | | |
| | neural arches to each other | _____ |
| | neural arches to centrum | _____ |
| Lumbar vertebrae | | |
| | neural arches to each other | _____ |
| | neural arches to centrum | _____ |
| Cranium | | |
| | basilar suture | _____ |
| Occipital | | |
| | lateral – squama | _____ |
| | basilar – lateral | _____ |
| Mandibular Symphysis | | _____ |
| Metopic Suture | | _____ |

Stage of union: blank = unobservable, 0 = open, 1 = partial union, 2 = complete union

**Age Assessment:**

| | Age class | | Age range in months or years |
|---|---|---|---|
| Fetus | _____ | lunar months | _____ |
| Infant (birth – 2 yr) | _____ | months/years | _____ |
| Child (2 – 12 yr) | _____ | years | _____ |
| Subadult (12-18yr) | _____ | years | _____ |

Comments (criteria used for age assessment):

_____

_____

_____

_____

# IMMATURE MEASUREMENT RECORDING FORM

## Cranial Measurements

All measurements are in millimeters. * indicates that measurement is approximate

| measurement | left | midline | right |
|---|---|---|---|
| 1. lesser wing of sphenoid | | | |
| length | _____ | | _____ |
| width | _____ | | _____ |
| 2. greater wing of sphenoid | | | |
| length | _____ | | _____ |
| width | _____ | | _____ |
| 3. body of sphenoid | | | |
| length | | _____ | |
| width | | _____ | |
| 4. petrous/mastoid portions of temporal | | | |
| length | _____ | | _____ |
| width | _____ | | _____ |
| 5. basilar part of occipital | | | |
| length | | _____ | |
| width | | _____ | |
| 6. zygomatic | | | |
| length | _____ | | _____ |
| width | _____ | | _____ |
| 7. maxilla | | | |
| length | _____ | | _____ |
| height | _____ | | _____ |
| width | _____ | | _____ |
| 8. mandible | | | |
| length of body | _____ | | _____ |
| width of arc | _____ | | _____ |
| full length of half mandible | _____ | | _____ |

## Postcranial Measurements

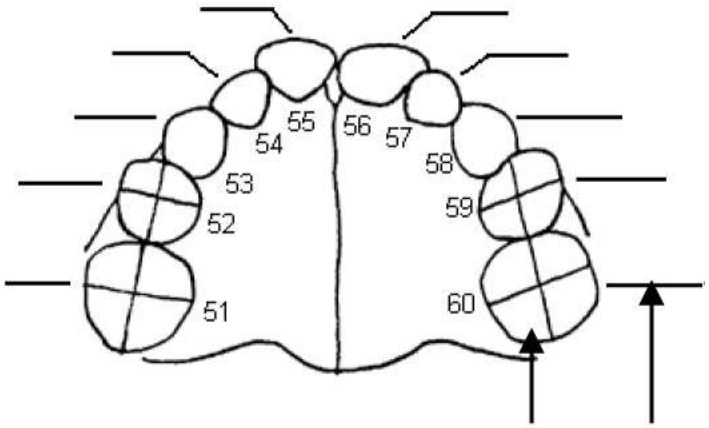
| element | left | right |
|---|---|---|
| 9. clavicle | | |
| length | _____ | _____ |
| diameter | _____ | _____ |
| I0. scapula | | |
| length (height) | _____ | _____ |
| width | _____ | _____ |
| length of spine | _____ | _____ |
| II. ilium | | |
| length | _____ | _____ |
| width | _____ | _____ |
| 12. ischium | | |
| length | _____ | _____ |
| width | _____ | _____ |
| 13. pubis | | |
| length | _____ | _____ |
| 14. humerus | | |
| length | _____ | _____ |
| width | _____ | _____ |
| diameter | _____ | _____ |

| element | left | right |
|---|---|---|
| 15. ulna | | |
| length | _____ | _____ |
| diameter | _____ | _____ |
| 16. radius | | |
| length | _____ | _____ |
| diameter | _____ | _____ |
| 17. femur | | |
| length | _____ | _____ |
| width | _____ | _____ |
| diameter | _____ | _____ |
| 18. tibia | | |
| length | _____ | _____ |
| diameter | _____ | _____ |
| 19. fibula | | |
| length | _____ | _____ |
| diameter | _____ | _____ |

Provenience _____ Numeric I.D. _____ ASM 8/24/04 Form 32a

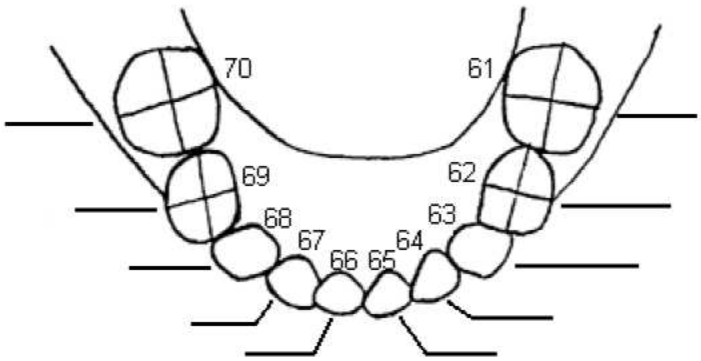
# DECIDUOUS TEETH RECORDING FORM
## Wear, Development, Loss

| Loss Categories | Wear Stages | Development Stages |
|---|---|---|
| A = antemortem | 0 = not in occlusion | 0 = unobservable |
| P = postmortem | 1-10 = per *Standards* | 1-14 = per *Standards* |
| U = unknown | X = unknown due to caries or breakage | |




## MAXILLA

**RIGHT** **LEFT**



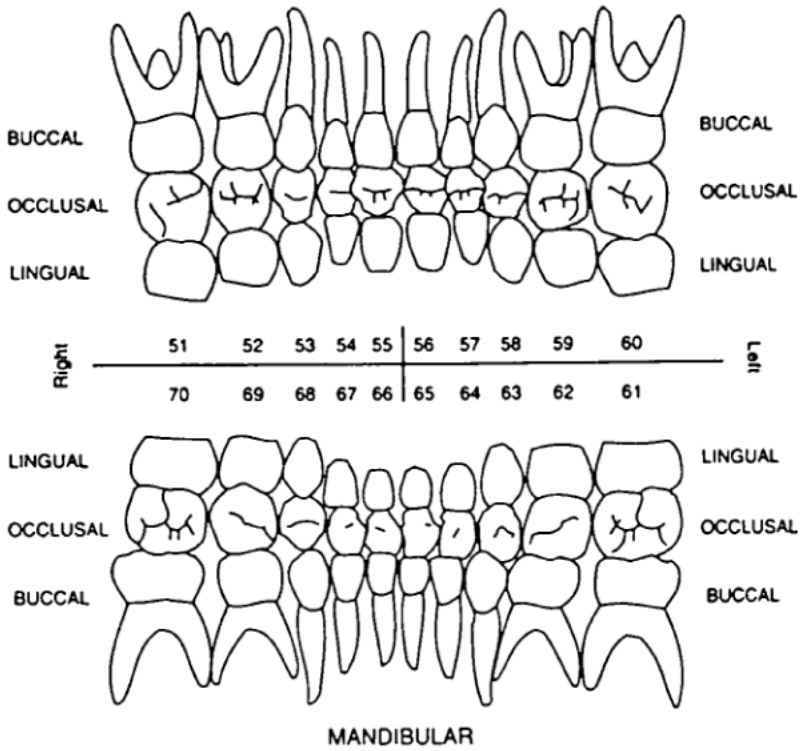

## MANDIBLE

Provenience _____ Numeric I.D. _____ ASM 8/24/04 Form 32b

# DECIDUOUS TEETH RECORDING FORM

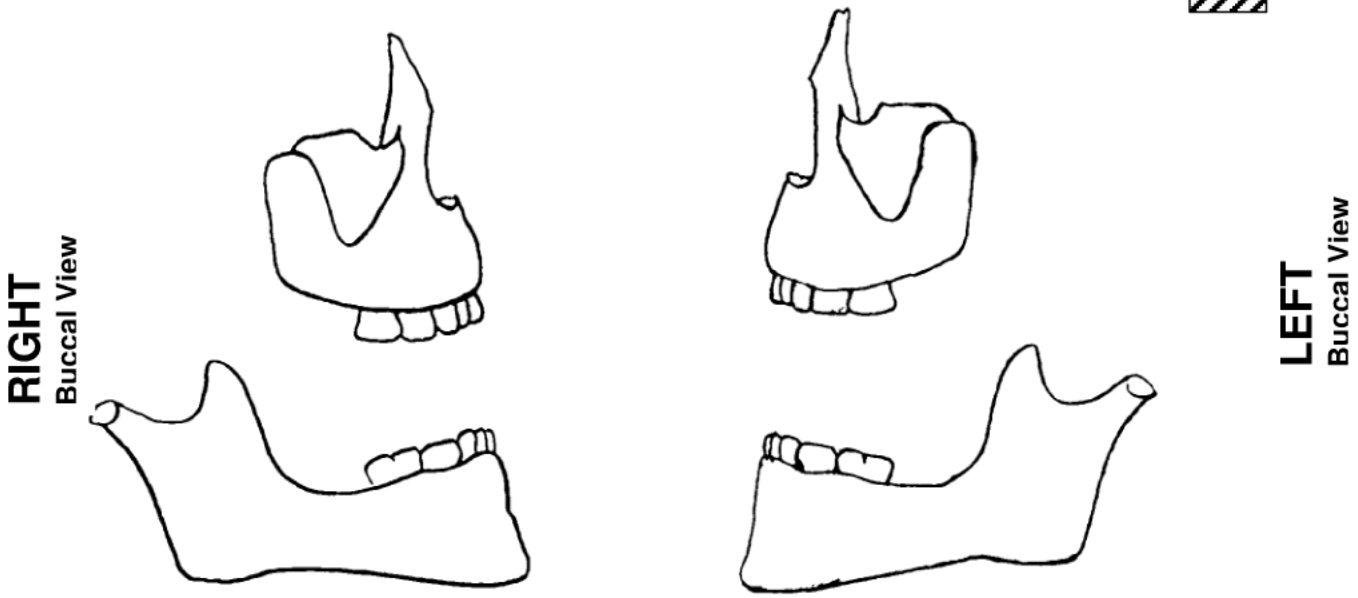
## Pathologies

MAXILLARY




MANDIBULAR

**Indicate missing alveolar bone on the drawing below with cross-hatching**




**Note: Indicate dental pathologies on the drawings above. Use codes per *Standards.***

| **Checklist:** | Caries | Abscesses | Hypoplasia | Calculus | Periodontal Disease | Hypocalcification |
|---|---|---|---|---|---|---|
| present | ____ | ____ | ____ | ____ | ____ | ____ |
| absent | ____ | ____ | ____ | ____ | ____ | ____ |
| unobservable | ____ | ____ | ____ | ____ | ____ | ____ |

# DENTAL MORPHOLOGY – DECIDUOUS TEETH

## MANDIBLE

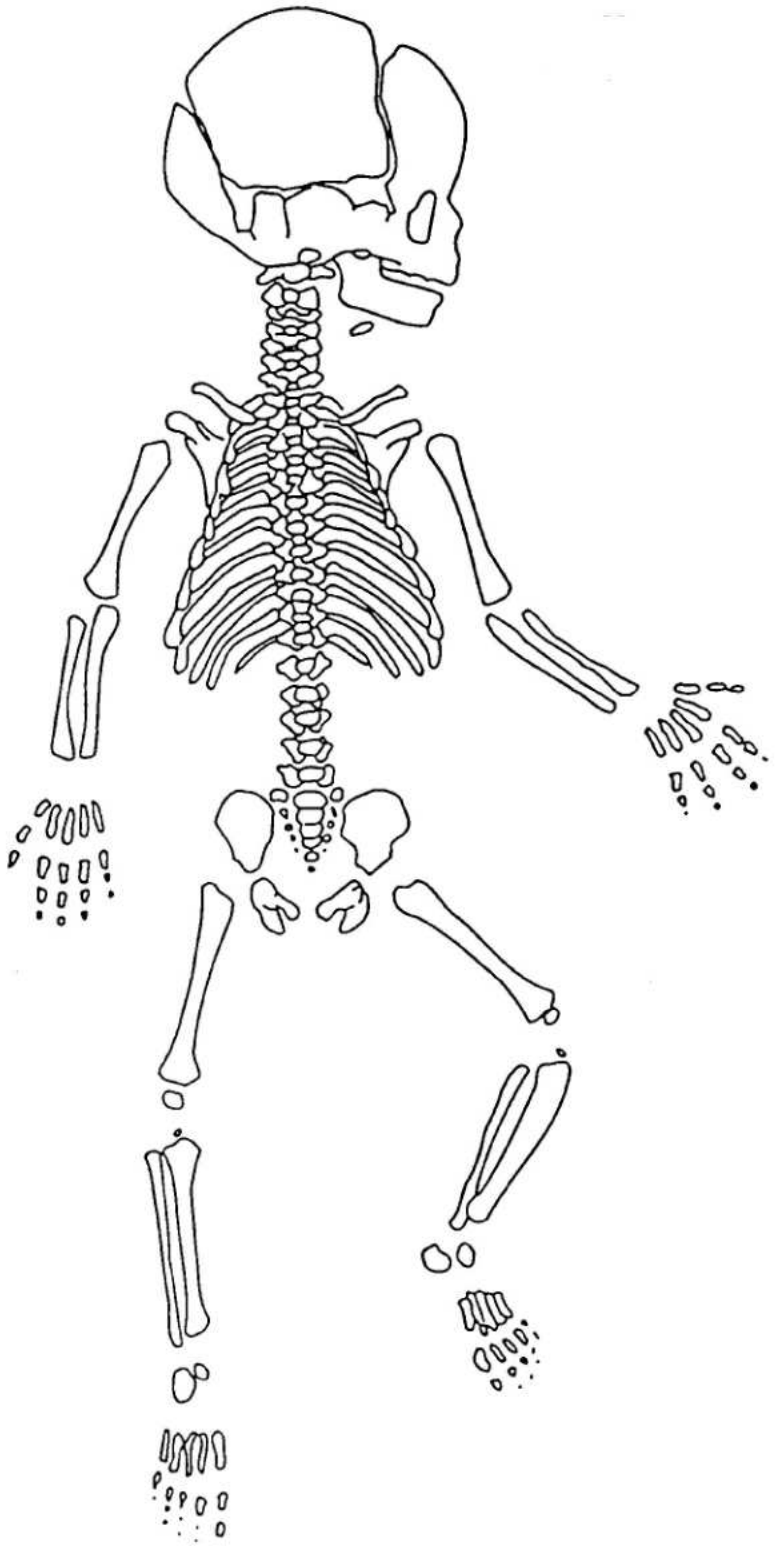
| | Right | | | | | Left | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 70 | 69 | 68 | 67 | 66 | 65 | 64 | 63 | 62 | 61 |
| | $m_2$ | $m_1$ | c | $i_2$ | $i_1$ | $i_1$ | $i_2$ | c | $m_1$ | $m_2$ |
| shovel | | | | | | | | | | |
| root groove | | | | | | | | | | |
| labial deflect | | | | | | | | | | |
| double teeth | | | | | | | | | | |
| dist acces rdg | | | | | | | | | | |
| tuberc dentale | | | | | | | | | | |
| canine form | | | | | | | | | | |
| cong absence | | | | | | | | | | |
| delta shape | | | | | | | | | | |
| groove pattern | | | | | | | | | | |
| cusp number | | | | | | | | | | |
| deflect wrinkle | | | | | | | | | | |
| mid trig crest | | | | | | | | | | |
| dist trig crest | | | | | | | | | | |
| protostylid | | | | | | | | | | |
| hypoconulid | | | | | | | | | | |
| cusp 6 | | | | | | | | | | |
| cusp 7 | | | | | | | | | | |
| root no. | | | | | | | | | | |

# DENTAL MORPHOLOGY – DECIDUOUS TEETH

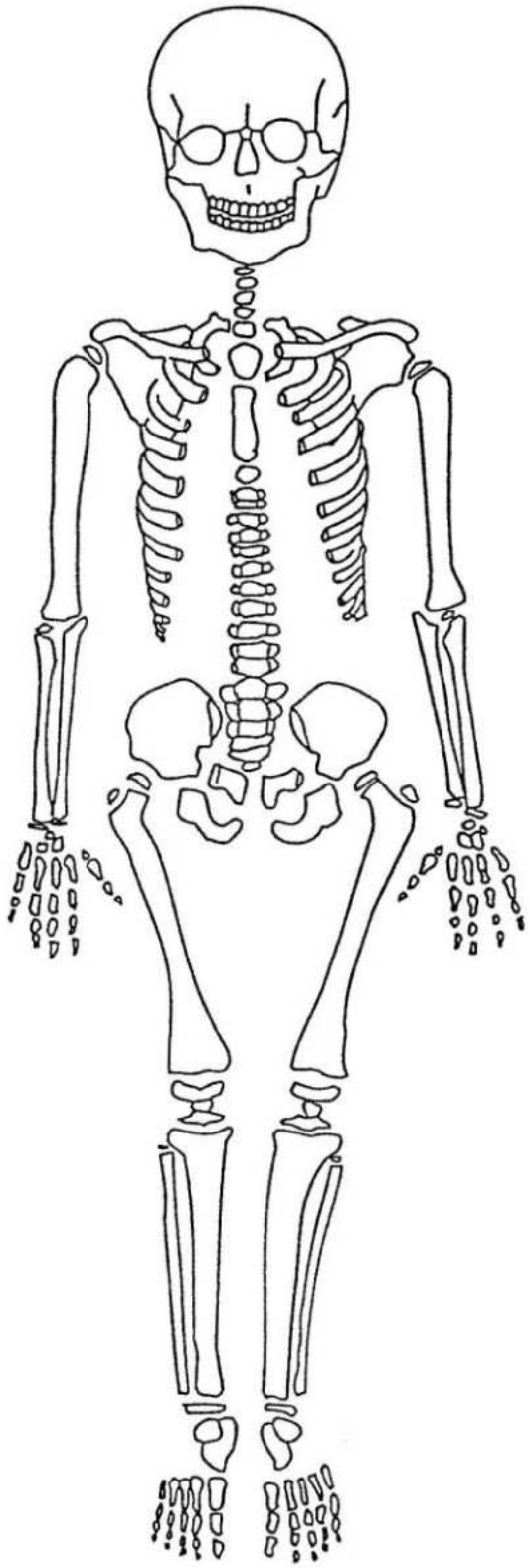
## MAXILLA

| | Right | | | | | Left | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
| | $m^2$ | $m^1$ | c | $i^2$ | $i^1$ | $i^1$ | $i^2$ | c | $m^1$ | $m^2$ |
| winging | | | | | | | | | | |
| root groove | | | | | | | | | | |
| labial deflect | | | | | | | | | | |
| double teeth | | | | | | | | | | |
| shovel | | | | | | | | | | |
| double shovel | | | | | | | | | | |
| interrupt groove | | | | | | | | | | |
| tuberc dentale | | | | | | | | | | |
| C mesial ridge | | | | | | | | | | |
| dist acces rdg | | | | | | | | | | |
| canine form | | | | | | | | | | |
| metacone | | | | | | | | | | |
| hypocone | | | | | | | | | | |
| cusp 5 | | | | | | | | | | |
| Carabelli's tr | | | | | | | | | | |
| parastyle | | | | | | | | | | |
| enamel ext | | | | | | | | | | |
| root sheath | | | | | | | | | | |
| root number | | | | | | | | | | |
| cong absence | | | | | | | | | | |

# INFANT SKELETON



# CHILD SKELETON



# ISOLATED BONE RECORDING FORM

ASM 8/24/04 Form 35

**Site Name & #** _____ **Date** _____
**Numeric ID** _____ **Observer** _____

MNI ____ MNI Category _____ Collection type _____

List each element. Indicate R or L side. Code completeness as C (75% or more), P (25-75%), or F (< 25%). For long bones, code regions as PE (proximal epiphysis), DE (distal epiphysis), P 1/3 (proximal third of shaft), M 1/3 (middle third), D 1/3 (distal third).

**Elements Represented:**

**Cranial** _____

**Dental** _____

**Axial** _____

**Appendicular** _____

**Extremities** _____

**Unknown** _____

**Age & Sex assessment** _____

**Comments:** (note pathologies, taphonomy, etc.)

# CREMATED BONE RECORDING FORM

ASM 8/24/04 Form 36a

**Site Name & #** _____ **Date** _____
**Numeric ID** _____ **Observer** _____
**MNI** _____
**Bone weight (grams)** _____ **Maximum length (cm)** _____ **Average length** _____
**Color** _____
**Warping/Surface texture** _____

**Elements Represented:**

**Cranial** _____
% ____ _____
_____
**Dental** _____
% ____ _____
_____
**Axial** _____
% ____ _____
_____
**Appendicular** _____
% ____ _____
_____
**Extremities** _____
% ____ _____
_____
**Unknown** _____
% ____

**Age & Sex assessment** _____
_____
_____
_____

**Comments:** (note pathologies, etc.)

# CREMATED BONE RECORDING FORM

ASM 8/24/04 Form 36b

**Site Name & #** _____ **Date** _____
**Numeric ID** _____ **Observer** _____
**MNI** _____ **MNI Form** _____ **Collection Type** _____

## CRANIAL REMAINS

| left | right | | | |
|---|---|---|---|---|
| ___ | ___ | Parietal | ___ | Mandible |
| ___ | ___ | Temporal | ___ | Frontal |
| ___ | ___ | Zygomatic | ___ | Sphenoid |
| ___ | ___ | Lacrimal | ___ | Ethmoid |
| ___ | ___ | I. N. C. | ___ | Vomer |
| ___ | ___ | Nasal | ___ | Occipital |
| ___ | ___ | Maxilla | ___ | Hyoid |
| ___ | ___ | Palatine | ___ | Thyroid |
| ___ | | Ossicles | ___ | Crycoid |

## DENTAL REMAINS

| | # | condition |
|---|---|---|
| Incisors | ___ | ___ |
| Canines | ___ | ___ |
| Premolars | ___ | ___ |
| Molars | ___ | ___ |
| Milk Incisors | ___ | ___ |
| Milk canines | ___ | ___ |
| Milk molars | ___ | ___ |
| Peg teeth | ___ | ___ |
| Unident teeth | ___ | ___ |

| AREA | cond | path |
|---|---|---|
| Cranial | ____ | ____ |
| Dental | ____ | ____ |
| Axial | ____ | ____ |
| Appendicular | ____ | ____ |
| Extremities | ____ | ____ |

**AGE CLASS** _____
**SEX** _____

## POSTCRANIAL REMAINS

| | # | condition |
|---|---|---|
| Cervical | ___ | ___ |
| Thoracic | ___ | ___ |
| Lumbar | ___ | ___ |
| Sacrum | ___ | ___ |
| Coccyx | ___ | ___ |

| | left | right |
|---|---|---|
| Scapula | ___ | ___ |
| Clavicle | ___ | ___ |
| Sternum | ___ | |
| Humerus | ___ | ___ |
| Radius | ___ | ___ |
| Ulna | ___ | ___ |

| | left | right |
|---|---|---|
| Ilium | ___ | ___ |
| Ischium | ___ | ___ |
| Pubis | ___ | ___ |
| Femur | ___ | ___ |
| Tibia | ___ | ___ |
| Fibula | ___ | ___ |
| Patella | ___ | ___ |

| | # | condition |
|---|---|---|
| Left Ribs | ___ | ___ |
| Right Ribs | ___ | ___ |

| | # | condition |
|---|---|---|
| Carpals | ___ | ___ |
| Metacarpals | ___ | ___ |
| C. Phalanges | ___ | ___ |

| | # | condition |
|---|---|---|
| Tarsals | ___ | ___ |
| Metatarsals | ___ | ___ |
| T. Phalanges | ___ | ___ |

**PATHOLOGY**:

_____

_____

_____

_____

Sex Criteria _____

_____

Age Criteria _____

_____

Bone weight (grams) _____ Maximum dimension (cm) _____ Average Dimension (cm) _____

Color _____

Warping/Surface texture_____

Inventory Notes: