

# Bone Clones<sup>®</sup>

OSTEOLOGICAL REPRODUCTIONS

## Human Fetal Full-term Skeleton SCM-186



## Osteological Evaluation Report

*Prepared by*

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# Fetal Skeleton

**Product Number:** SCM-186

**Specimen Evaluated:** Bone Clones® replica

**Skeletal Inventory:** Articulated skeleton (complete)

## **GENERAL OBSERVATIONS:**

In general, the molding process has preserved significant details necessary for evaluation. The remains are totally skeletonized.

## **OSTEOLOGICAL OBSERVATIONS:**

General shape and configuration of the individual bones is within normal limits.

### **Measurements (in cm):**

	<b><u>Left</u></b>	<b><u>(L) Calc CHL</u></b>	<b><u>Right</u></b>	<b><u>(R) Calc CHL</u></b>
Clavicle (length)	4.472	52.176	4.436	51.746
Scapula (length)	3.567	52.599	4.0	52.714
Scapula (width)	3.096	54.539	3.050	53.773
Ilium (length)	3.548	54.574	3.545	54.531
Ilium (width)	3.193	54.349	3.156	53.791
Ischium (length)	1.858	52.599	1.881	53.079
Ischium (width)	1.184	50.975	1.153	49.932

	<u>Left</u>	<u>(L) Calc CHL</u>	<u>Right</u>	<u>(R) Calc CHL</u>
Pubic bone (length)	1.549	51.194	1.565	51.538
Humerus (length)	6.677	52.681	6.638	52.388
Radius (length)	5.445	55.661	5.413	55.322
Ulna (length)	6.123	52.589	6.085	52.277
Femur (length)	7.468	52.604	7.401	52.172
Fibula (length)	6.189	51.655	6.118	51.116
Tibia (length)	6.683	53.285	6.635	52.937

**SUMMARY:**

1. Age

Term fetus / infant

The average crown-heel length for all measurements is 52.5 centimeters.

The average crown-heel length for long bones is 53.0 centimeters.

*Both of these measurements most accurately correlate with an estimated gestational age of 10 lunar months / 42 gestational weeks (term birth).*

### **EDUCATIONAL RESOURCES:**

1. Both articulated and disarticulated versions of this skeleton are fantastic illustrations of the osteologic anatomy of the full-term or near full-term fetus / infant.
2. Many people are uncomfortable with human fetal osteology because of the apparent complexity of the anatomy. This can be overcome with frequent exposure to a teaching specimen such as this, combined with thoughtful reading of *Developmental Juvenile Osteology* by Scheuer and Black, as well as *Osteology of Infants and Children* by Baker, Dupras and Tocheri.
3. Inexperienced osteologists may confuse elements of the developing human skeleton with those of small animals; it may be appropriate and/or advantageous to make such comparative specimens available for analysis during laboratory sessions, or to make direct comparisons during didactic teaching sessions.
4. It can be most beneficial to the student to have access to radiographs of fetus' and infants at various stages of development.
5. Comparison to skeletal elements at various stages of development can be very useful. I suggest KO-340-CSET, SC-183-A, SC-187-A and SC-226-A.
6. It is not currently possible to reliably differentiate amongst the major racial groups within subadults.[1]
7. It is not currently possible to reliably differentiate male and female infant and young child skeletal remains.[1]

### **REFERENCES:**

1. Matshes, E. and Lew, E. (2006). Forensic osteology. In *Forensic Pathology: Principles and Practice*, D. Dolinak, E. Matshes, and E. Lew, Editors. San Diego, CA: Elsevier (Academic Press).

### **DISCLAIMERS:**

Evaluation of osteologic material is best done with original specimens. My evaluation was based solely upon studies of a Bone Clones® replica. Certain artifacts are intrinsic to the casting process. Very precise measurements in exacting planes are required to most accurately determine age. With casting, there is a tendency to over-estimation of bone size (length, width), and thus, in the case of fetal bone evaluation, of over-estimating age.

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