

Human Anatomy Manual

The Skeleton



Laerdal Texas
P.O. Box 38 • 226 F.M. 116
Gatesville, Texas U.S.A. 76528
U.S.A. 1-800-433-5539
International 1-254-865-7221
24 Hour Fax 254-865-8011



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INTRODUCTION

Osteology (from the Greek "Osteon", meaning bone) is the branch of anatomy that describes the structure and functions of the skeletal system.

Bones provide a firm framework that gives shape to the body, supports its parts, and protects vital organs such as the brain, heart, lungs, etc., from injury.

The bones also facilitate body movement by acting in cooperation with numerous muscles attached to the bones by tendons.

Bone growth and development continues from birth to about twenty years of age.

Cartilage furnishes elastic, supporting connective tissues which protect the bones at the joints from shock and give the skeleton more flexibility.

Infants have approximately three hundred fifty bones, many of which fuse during the process of growth. Adults vary somewhat in the number of bones, but a total of two hundred six bones is considered normal or typical.

The skeletal system consists of two divisions: the axial skeleton and the appendicular skeleton. The axial skeleton, the main framework of the body, consists of the spine, skull, and chest. The appendicular skeleton consists of the bones of the upper and lower extremities.

The skull is defined as the bony framework of the head. The 29 bones of the skull include those of the cranium and face, the hyoid bone, and the ear ossicles. The 8 cranial bones enclose a cavity within which are the brain, 3 layers of protective membranes (pia mater, arachnoid, and dura mater), and numerous blood vessels. Fourteen irregular bones, including the lower and upper jaw bones, nasal bones, and cheek bones, form the bony framework of the face.

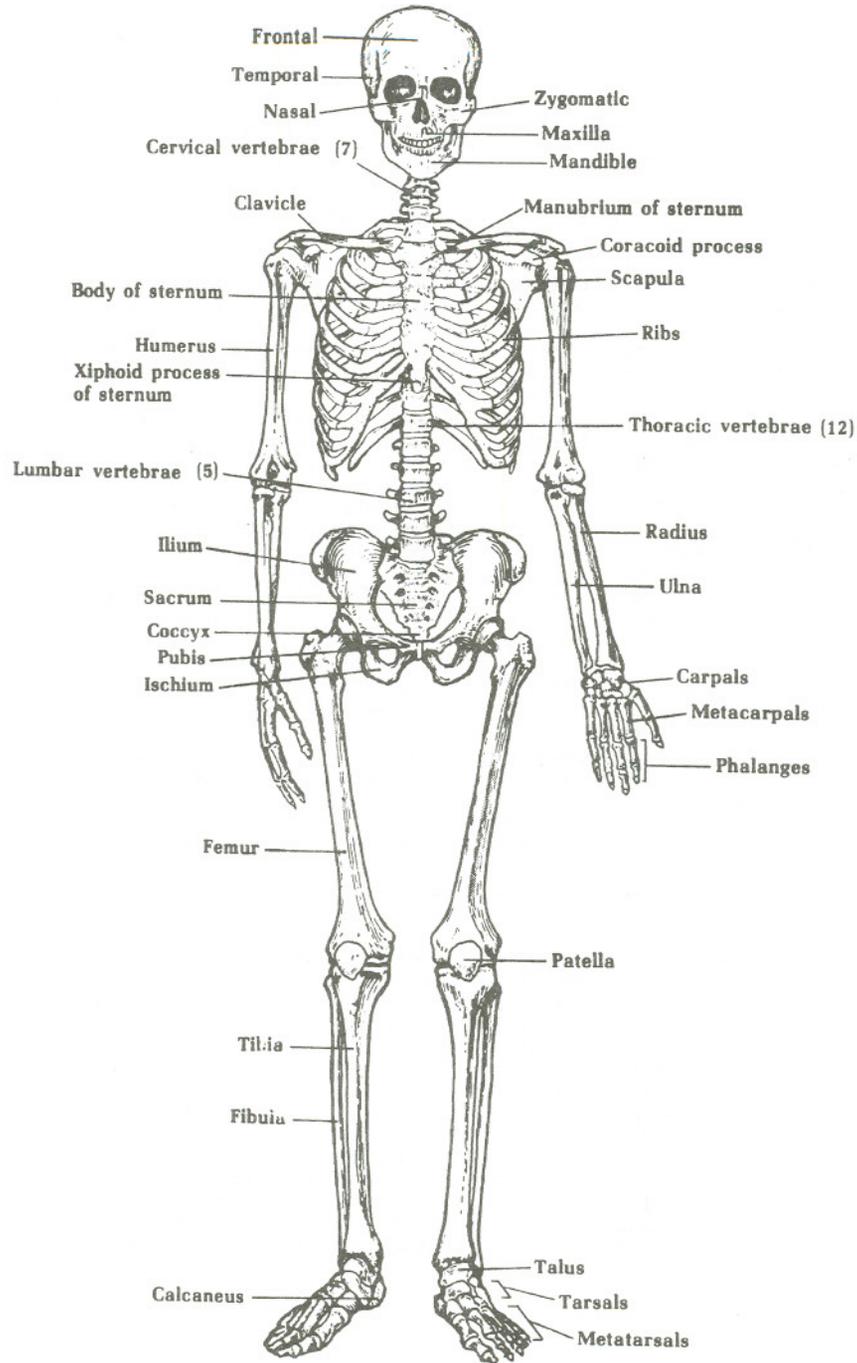
The human skull, compared with the skulls of other animals, displays a relative decrease in the size of the face and a relative increase in the size of the cranium. There are actually 5 great cavities of the skull: two cavities, or orbits, enclosing the eyes; the nasal cavity, with its two chambers separated by the septum; the oral cavity, with the jaw bones and maxillae, palate, and sphenoid bones; and the cranial cavity.

There are important cavities, called paranasal sinuses, in the walls of some of the skull bones adjacent to the nasal cavity. These sinuses have a lining of ciliated mucous membrane which is continuous with that of the nasal cavity, and they drain into the nasal passageways and help to moisten them. The paranasal sinuses are useful resonating chambers for the voice, but the continuity of the membrane with that of the nose and mouth permits infectious material to spread rapidly through the various passageways, as in the common cold.

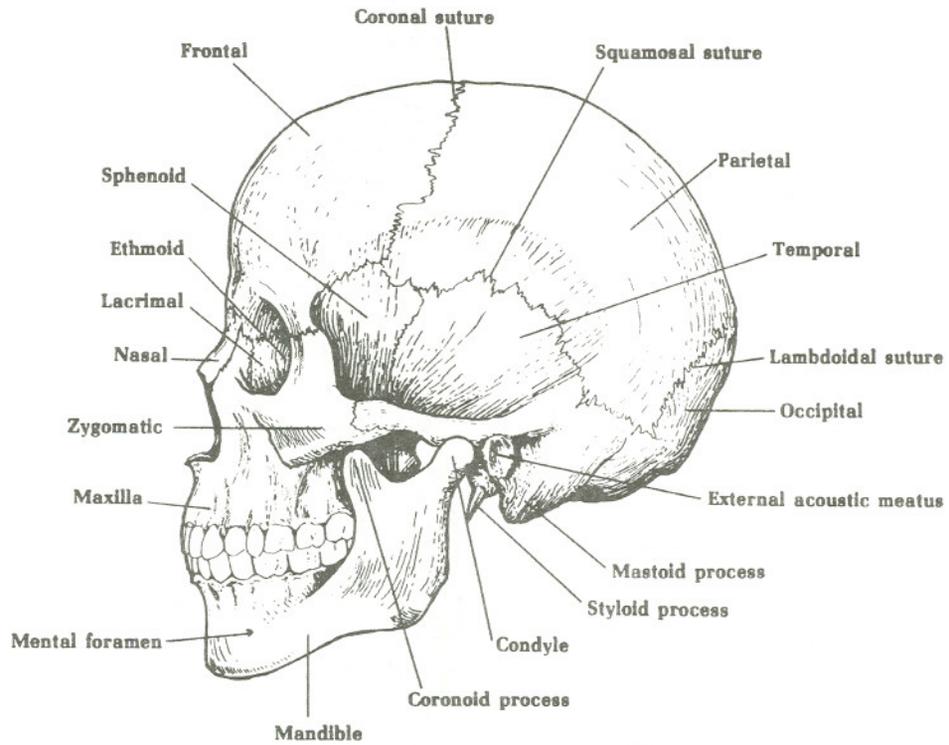
The U-shaped bone in the neck, the hyoid bone, is the only bone that does not meet with other bones to form a joint; ligaments connect it with an extension of the temporal bone. Some of the muscles of the tongue and mouth insert in the hyoid.

A word about the quality of our MPL skeletons. These are not models in the usual context of the word since models are first sculpted or carved and then copied. Our skeletons are cast by hand from molds taken from a 5' 2" Human (male) skeleton and thus are not models but authentic anatomical reproductions--with all the advantages of a human skeleton and none of the disadvantages.

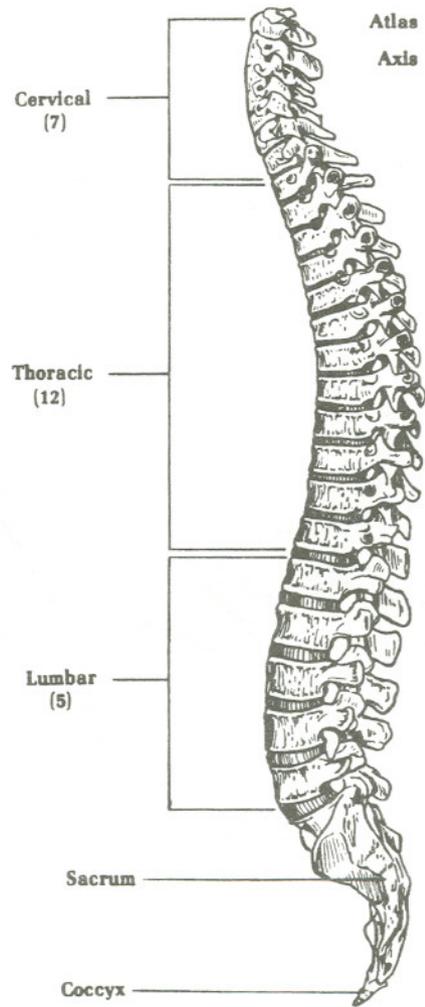
SKELETON



SKULL

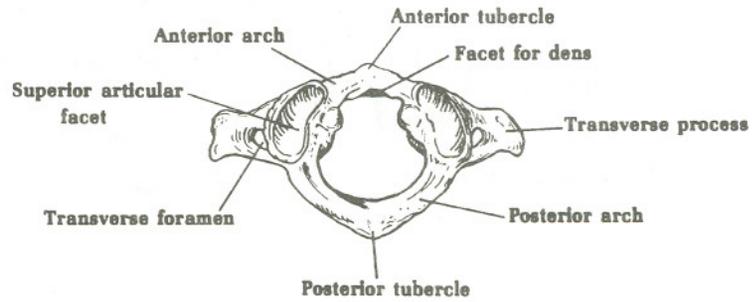


VERTEBRAL COLUMN

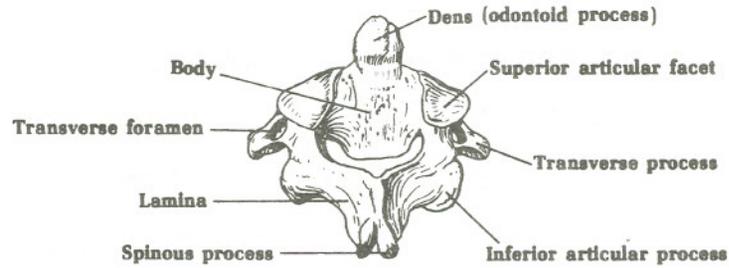


VERTEBRAE

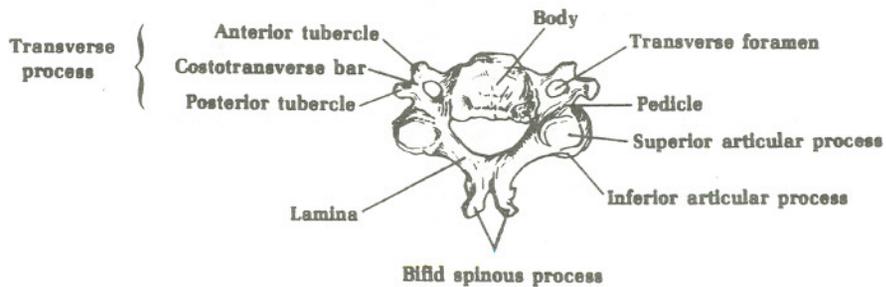
Atlas



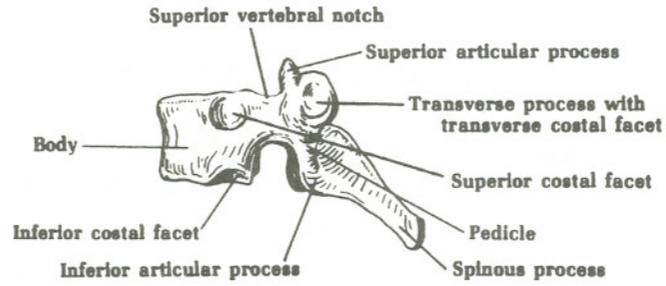
Axis



Cervical Vertebra

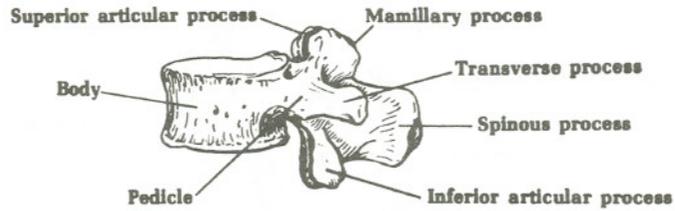


Thoracic Vertebra

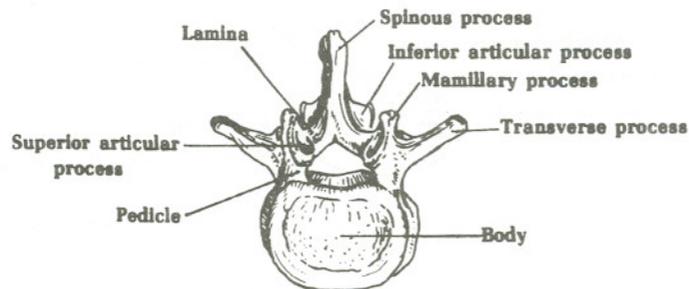


Lumbar Vertebra

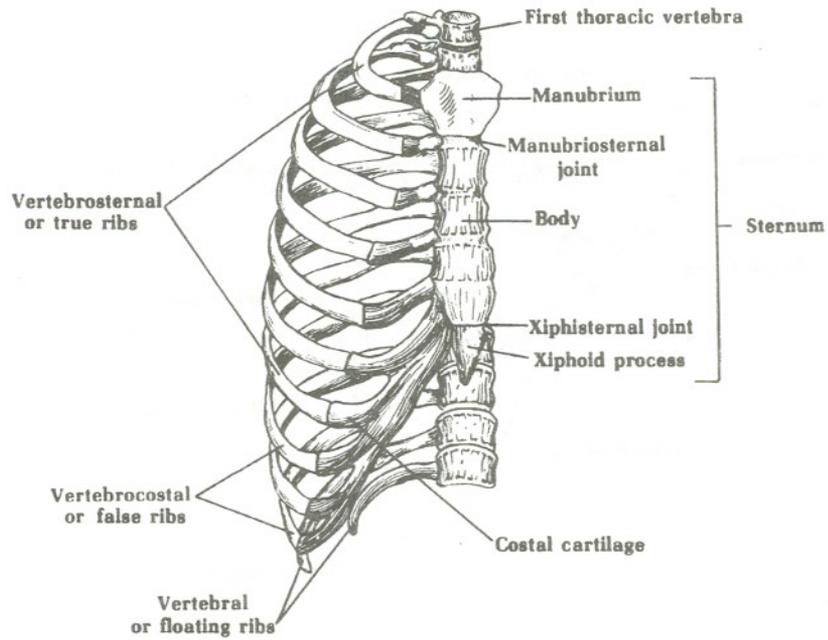
(lateral view)



(from above)



THORAX

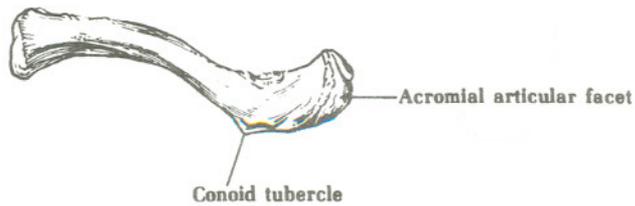


RIGHT CLAVICLE

(inferior view)

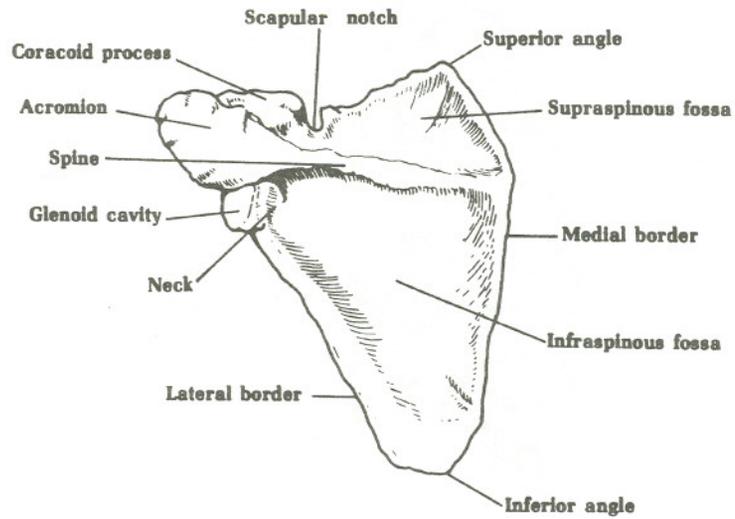


(superior view)

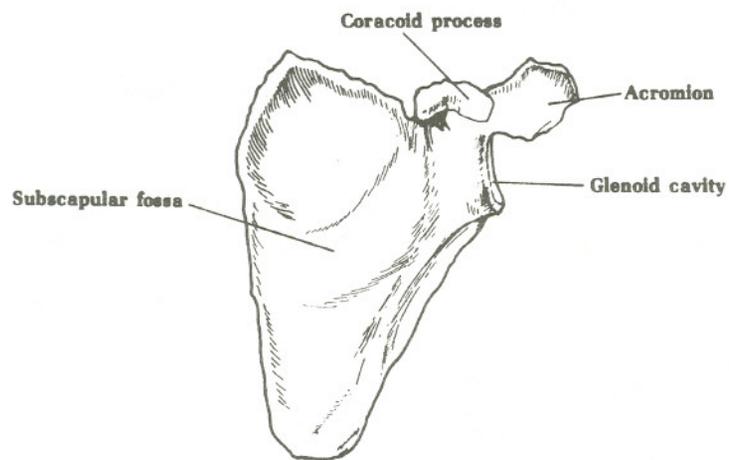


LEFT SCAPULA

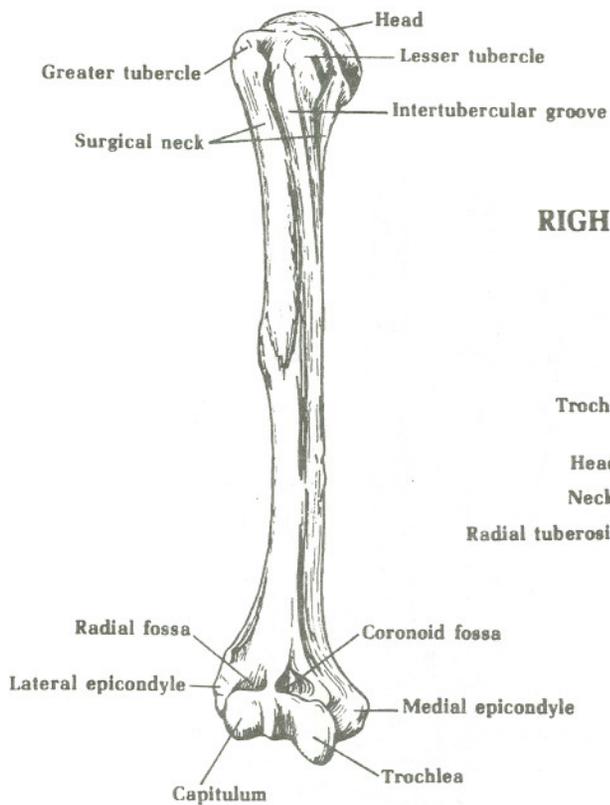
(dorsal view)



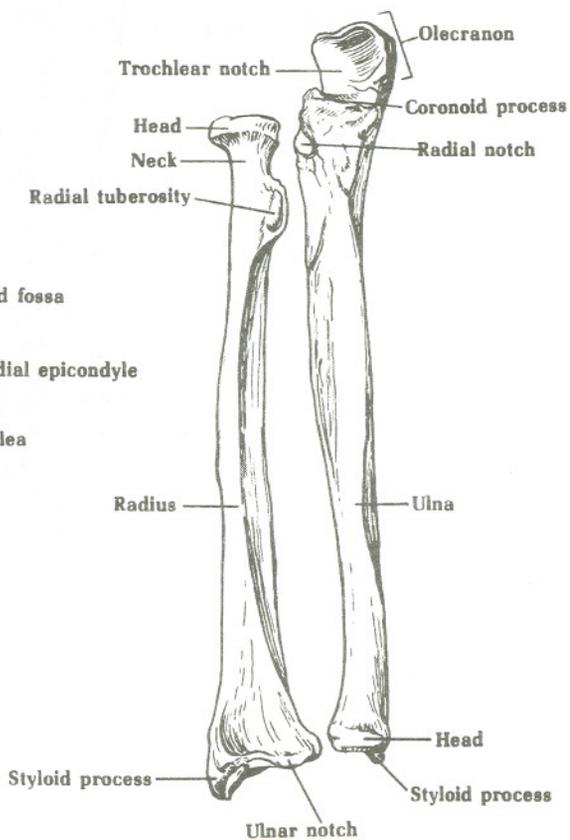
(costal view)



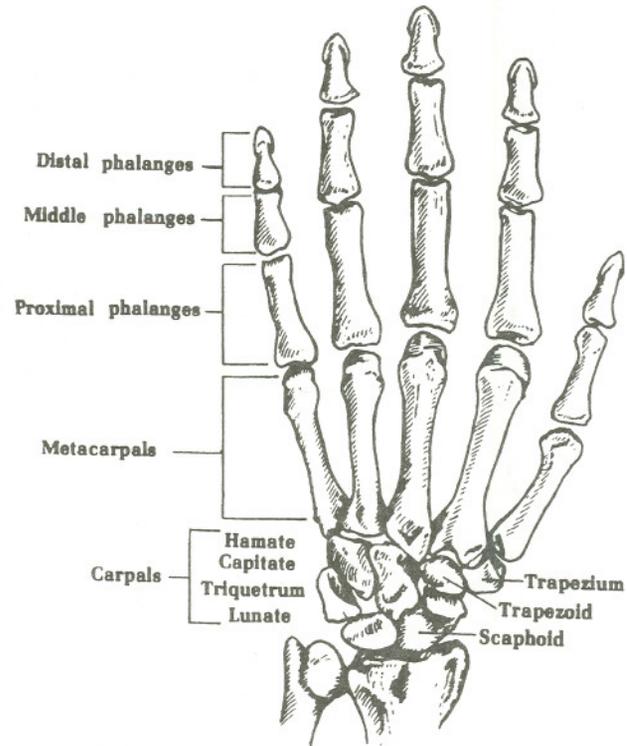
RIGHT HUMERUS
(anterior view)



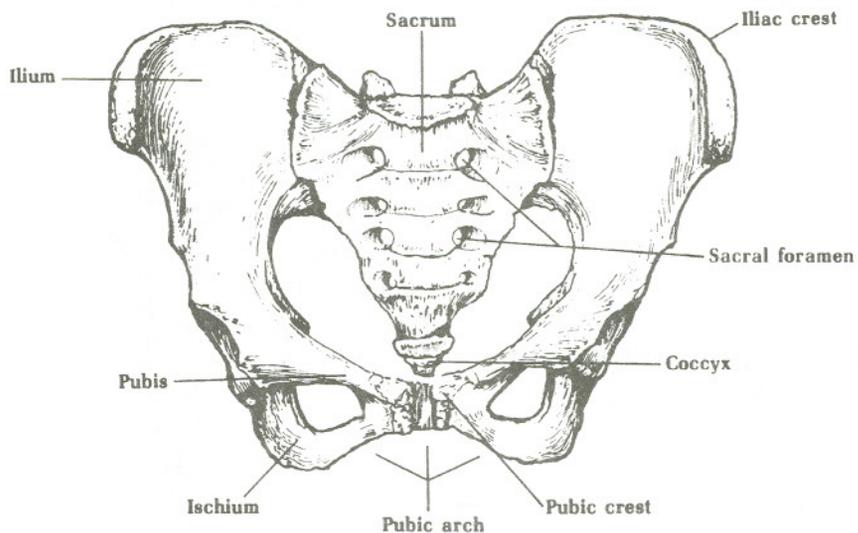
RIGHT RADIUS AND ULNA
(anterior view)



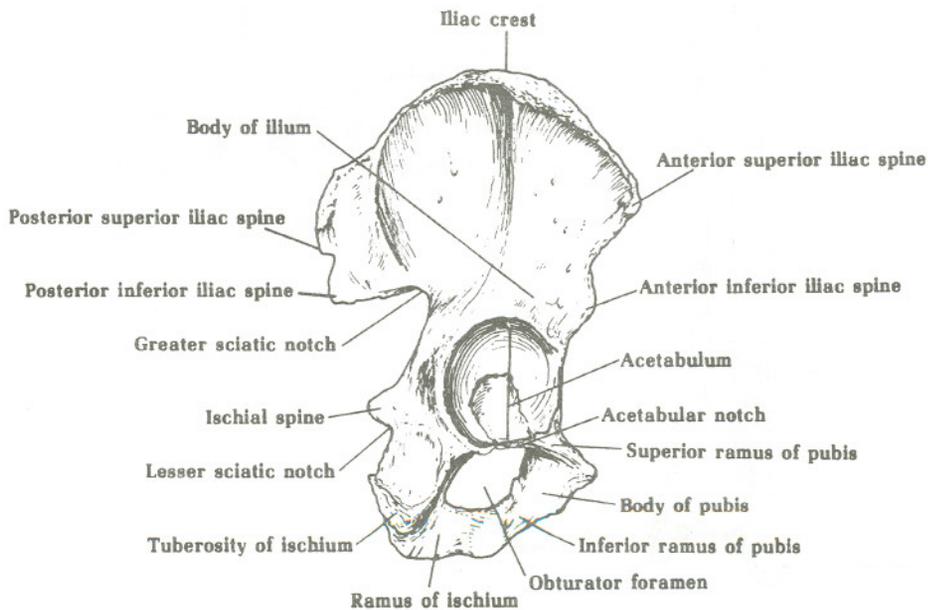
**LEFT HAND
(dorsal view)**



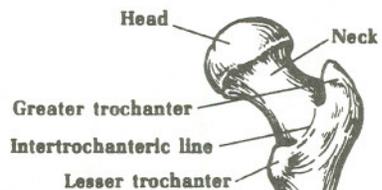
PELVIS



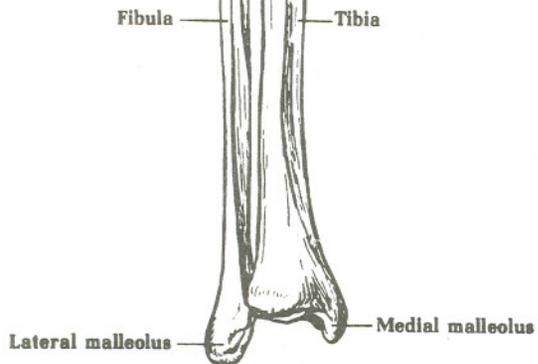
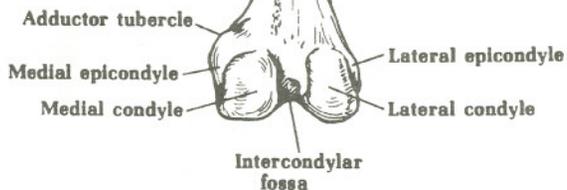
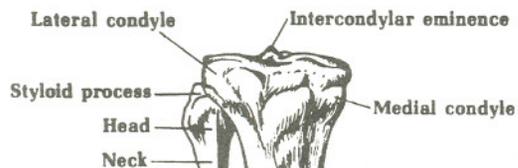
RIGHT INNOMINATE



**RIGHT FEMUR
(posterior view)**

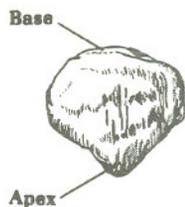


**RIGHT TIBIA AND FIBULA
(anterior view)**

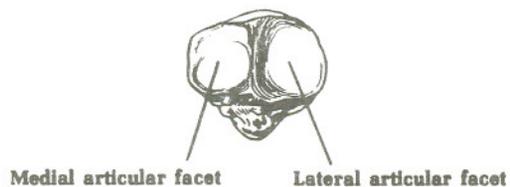


PATELLA

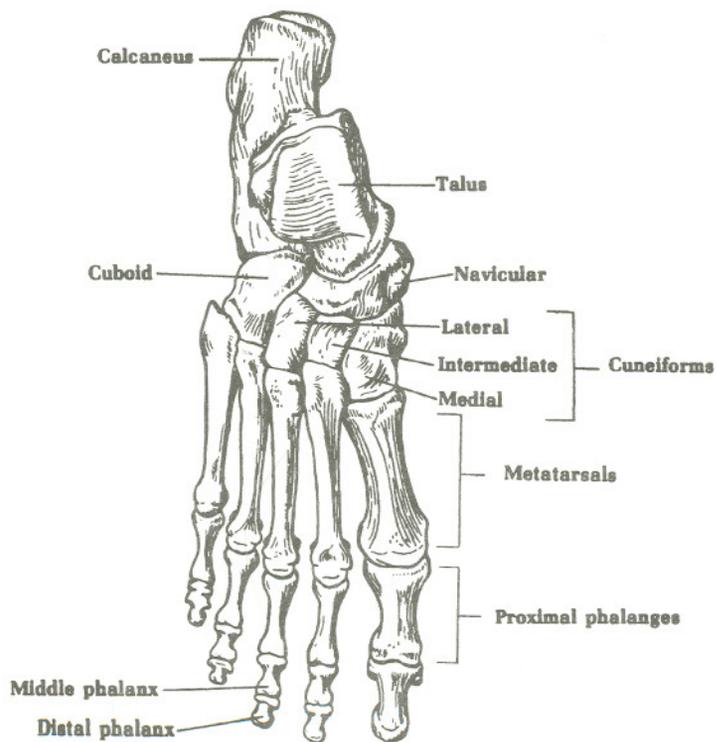
(anterior view)



(posterior view)



RIGHT FOOT (dorsal view)



Job # T4

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