Appendicular skeleton

The **appendicular skeleton** is the portion of the vertebrate endoskeleton consisting of the bones and cartilages that support the paired appendages (fins, flippers or limbs). In most terrestrial vertebrates (except snakes, legless lizards and caecillians), the appendicular skeleton and the associated skeletal muscles are the predominant locomotive structures.

There are 126 bones in the human appendicular skeleton, includes the skeletal elements within the shoulder and pelvic girdles, upper and lower limbs, and hands and feet.[1] These bones are homologous to those in the forelimbs and hindlimbs of all other tetrapods.

Etymology

The adjective "appendicular" comes from Latin *appendicula*, meaning "small addition".[2] It is the diminutive of *appendix*, which comes from the prefix *ad-* (meaning "to") + and the word root *pendere* (meaning"to hang", from PIE root **(s)pen-* meaning"to draw, stretch, spin").[3]

The organization of the appendicular system

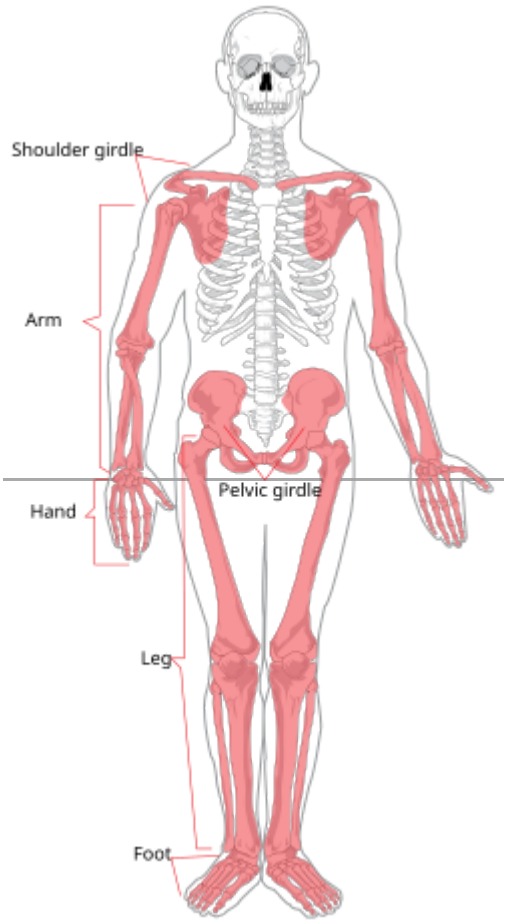
Of the 206 bones in the human skeleton, the appendicular skeleton comprises 126. Functionally, it is involved in locomotion (lower limbs) of the axial skeleton and manipulation of objects in the environment (upper limbs).

The appendicular skeleton forms during development from cartilage, by the process of endochondral ossification.

The appendicular skeleton is divided into six major regions:

- Shoulder girdle (4 bones) - Left and right clavicle (2) and scapula (2).
- Arms and forearms (6 bones) - Left and right humerus (2) (arm), ulna (2) and radius (2) (forearm).
- Hands (54 bones) - Left and right carpals (16) (wrist), metacarpals (10), proximal phalanges (10), intermediate phalanges (8) and distal phalanges (10).
- Pelvis (2 bones) - left hip bone and right hip bone (2).

Appendicular skeleton



Human appendicular skeleton

Details	
Identifiers	
Latin	*skeleton appendiculare*
TA98	A02.0.00.010 (https://ifaa.unifr.ch/Public/EntryPage/TA98%20Tree/Entity%20TA98%20EN/02.0.00.010%20Entity%20TA98%20EN.htm)
TA2	359 (https://ta2viewer.openanatomy.org/?id=359)
FMA	71222 (https://bioportal.bioontology.org/ontologies/FMA/?p=classes&conceptid=http%3A%2F%2Fpurl.org%2Fsig%2Font%2Ffma%2Ffma71222)

- Thighs and legs (8 bones) - Left and right femur (2) (thigh), patella (2) (knee), tibia (2) and fibula (2) (leg).
- Feet and ankles (52 bones) - Left and right tarsals (14) (ankle), metatarsals (10), proximal phalanges(10), intermediate phalanges (8) and distal phalanges (10).

Anatomical terminology

Through anatomical variation, the skeleton may have an accessory bone. Examples include sutural bones in the skull, cervical ribs, lumbar ribs, and a sixth lumbar vertebrae. Some occurrences are rarer than others.

The appendicular skeleton of 126 bones and the axial skeleton of 80 bones together form the complete skeleton of 206 bones in the human body. Unlike the axial skeleton, the appendicular skeleton is unfused. This allows for a much greater range of motion.

See also

- Legs

References

1. Skeleton (http://www.britannica.com/EBchecked/topic/547371/skeleton/41994/Amphibians-and-higher-vertebrates) *Encyclopædia Britannica*. Updated 24 August 2014.
2. "Appendicular (adj.)" (https://www.etymonline.com/word/appendicular#etymonline_v_26432). Online Etymology Dictionary. Retrieved 2024-02-06.
3. "Appendix (n.)" (https://www.etymonline.com/word/appendix). Online Etymology Dictionary. Retrieved 2024-02-06.