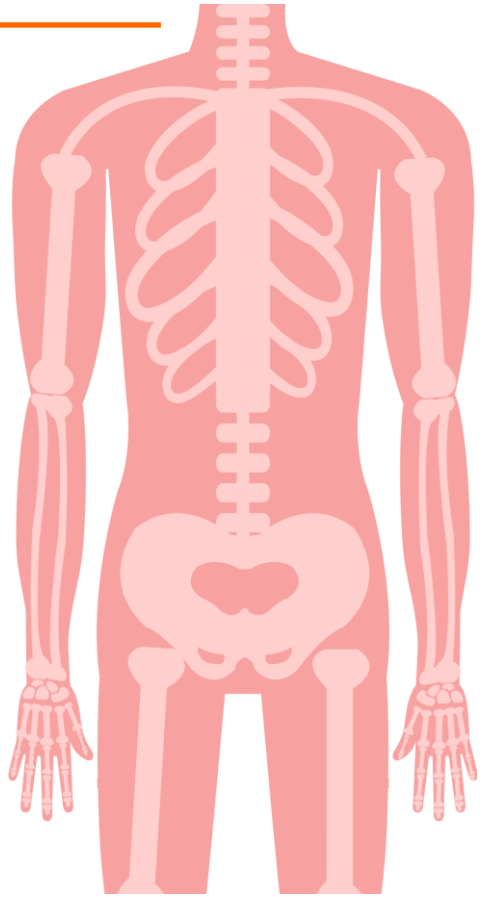
# Lec3\ The Skeletal System



Msc. Sarah Raheem

# The Skeletal System

- Parts of the skeletal system
  - Bones (skeleton)
  - Joints
  - Cartilages
  - Ligaments
- Divided into two divisions
  - Axial skeleton
  - Appendicular skeleton

# Functions of Bones

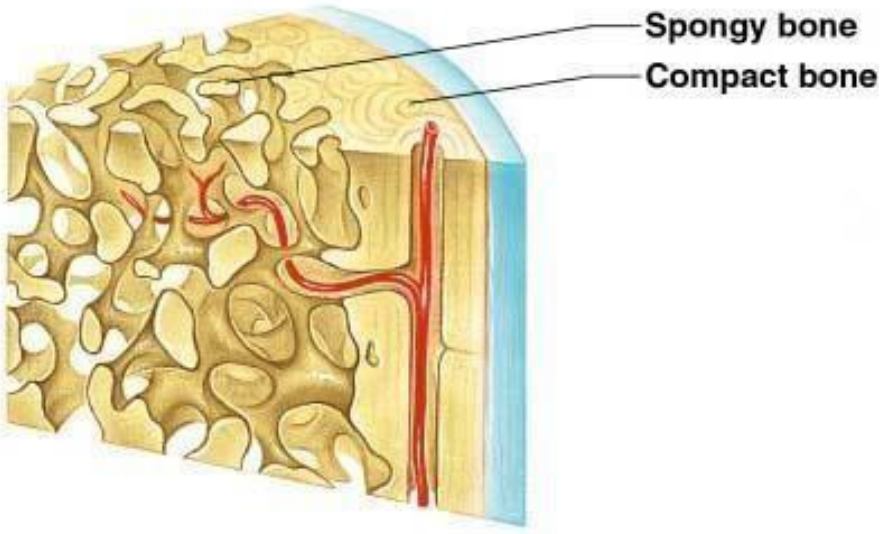
- Support of the body
- Protection of soft organs
- Movement due to attached skeletal muscles
- Storage of minerals and fats
- Blood cell formation

# Bones of the Human Body

The skeleton has 206 bones

Two basic types of bone tissue

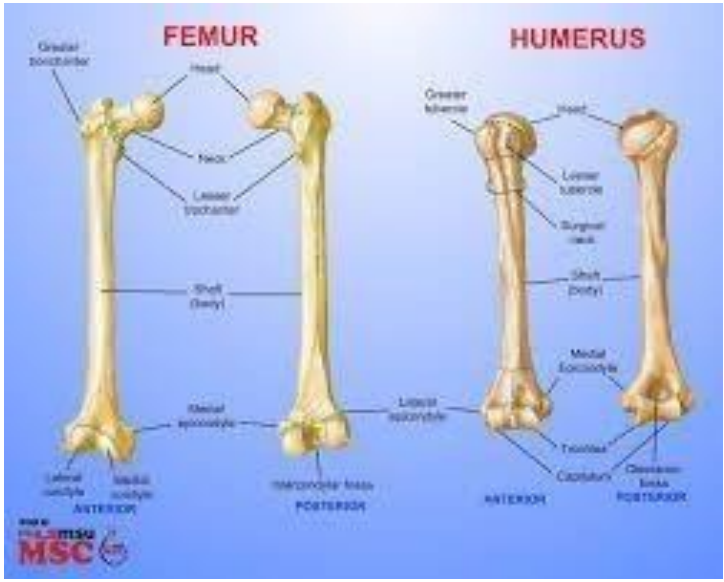
1. Compact bone
2. Spongy bone



# Classification of Bones

1. Long bones
2. Short bones
3. Flat bones
4. Irregular bones

# Long bones



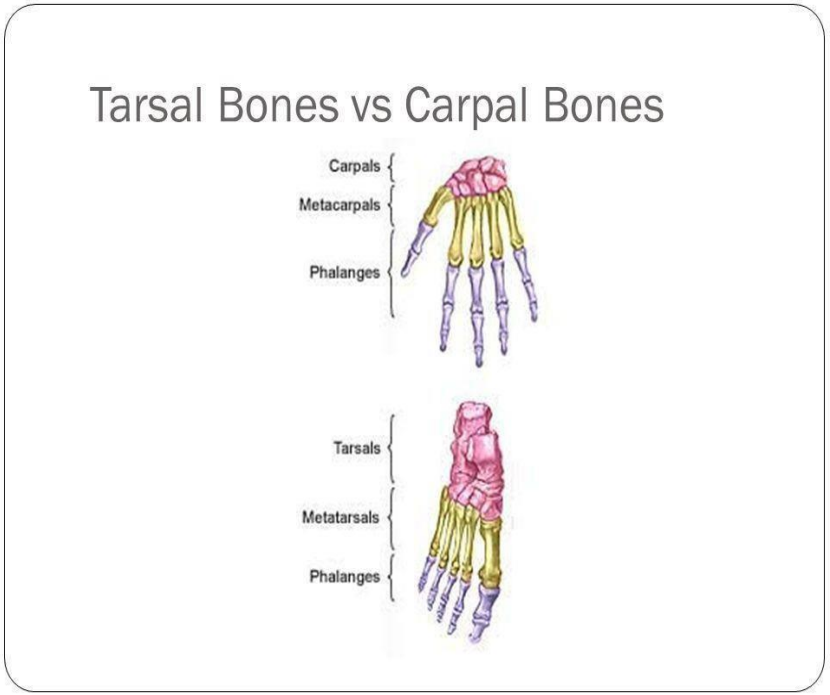

Typically longer than wide

Have a shaft with heads at both ends

Contain mostly compact bone

Examples: Femur عضم الفخذ , humerus عضم العضد

# Short bones



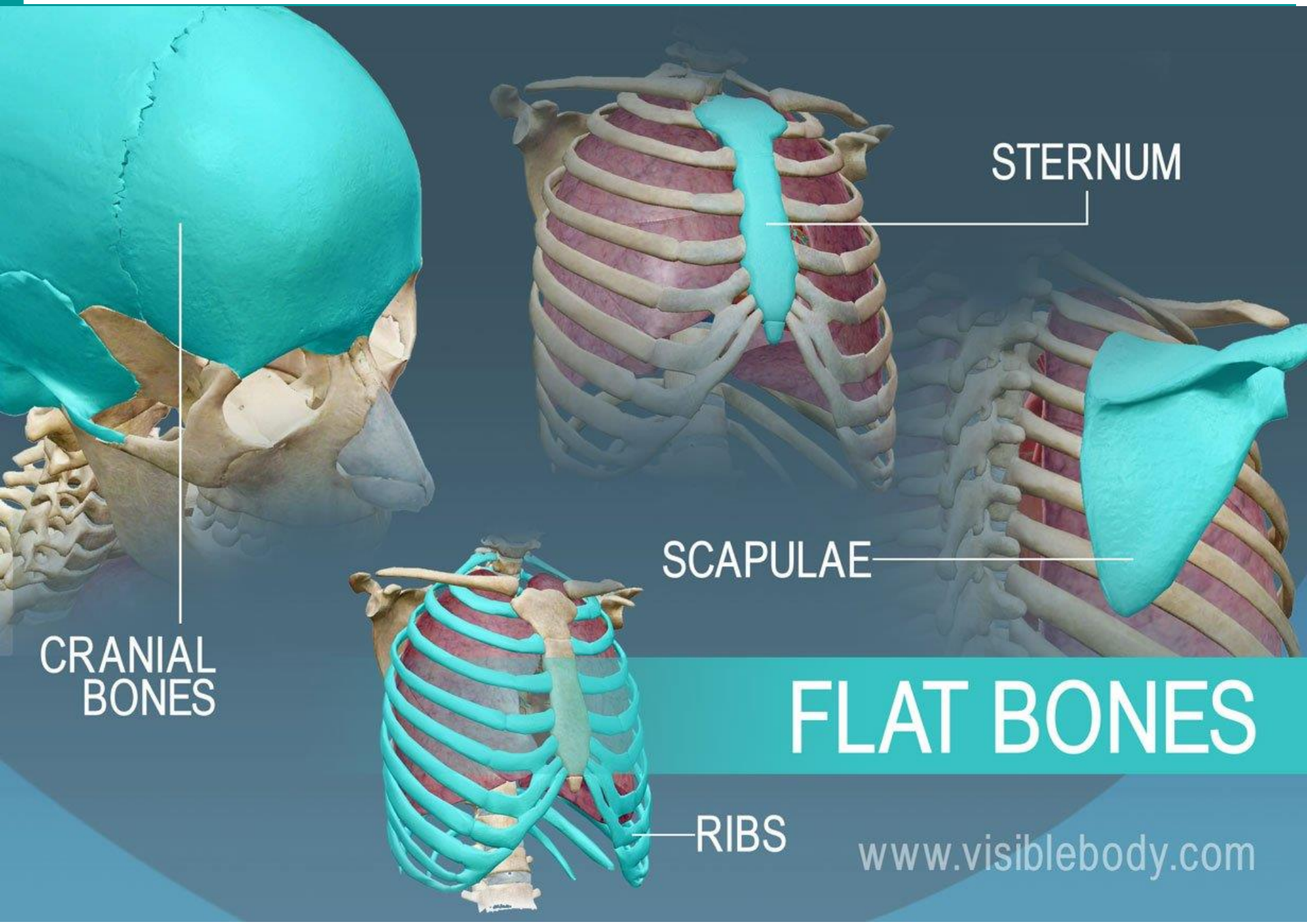

Generally cube-shape

Contain mostly spongy bone

Examples: Carpals عضم الرسخ , tarsals عضم الكاحل

## Flat bones

- Thin and flattened
- Usually curved
- Thin layers of compact bone around a layer of spongy bone
- Examples: Skull الجمجمه , ribs اضلاع , sternum عظم القص


STERNUM
SCAPULAE
CRANIAL BONES
RIBS
FLAT BONES
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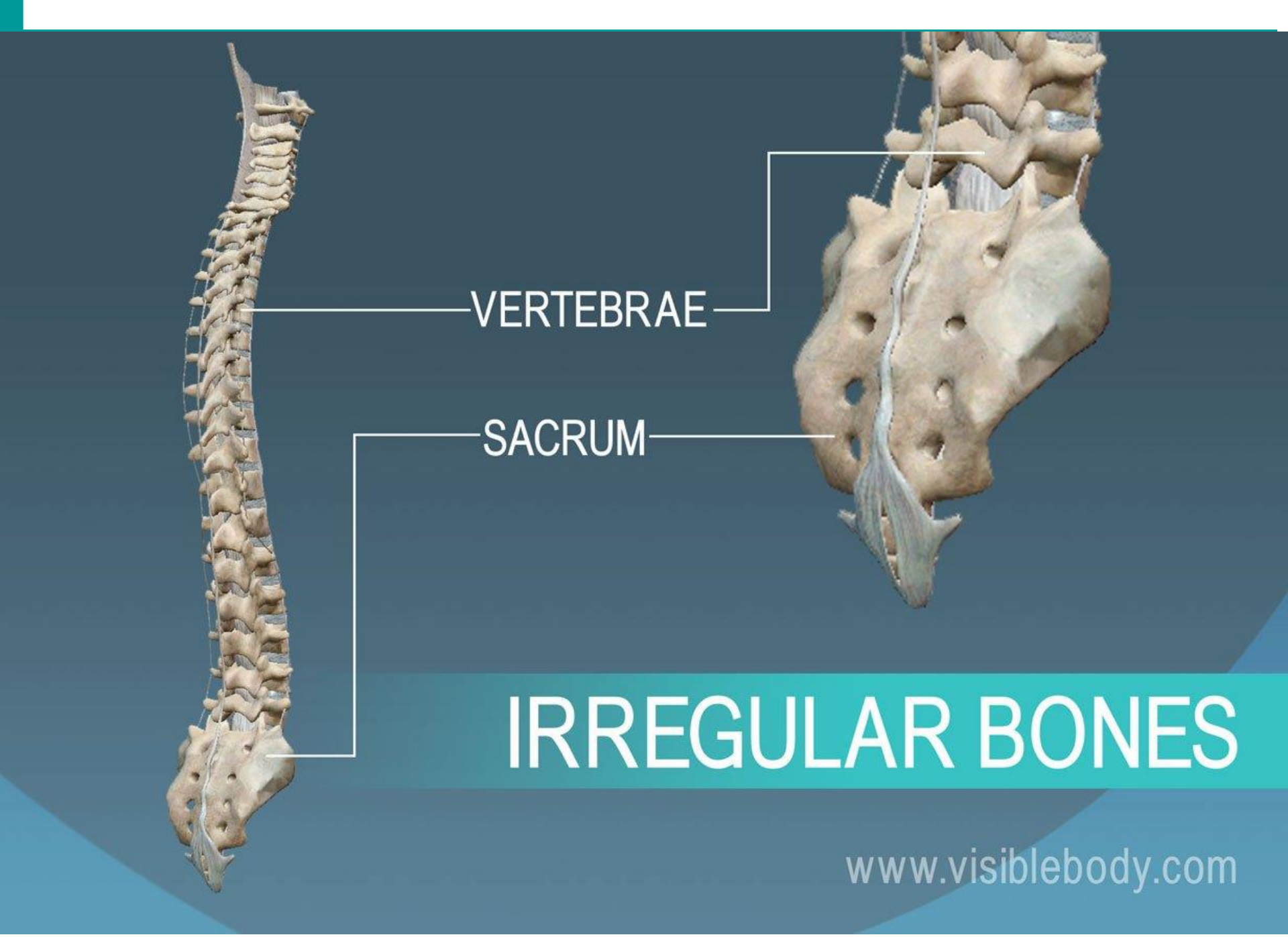
# Irregular bones

- Irregular shape
- Do not fit into other bone classification categories
- Example: Vertebrae الفقرات and hip الورك


VERTEBRAE
SACRUM
IRREGULAR BONES
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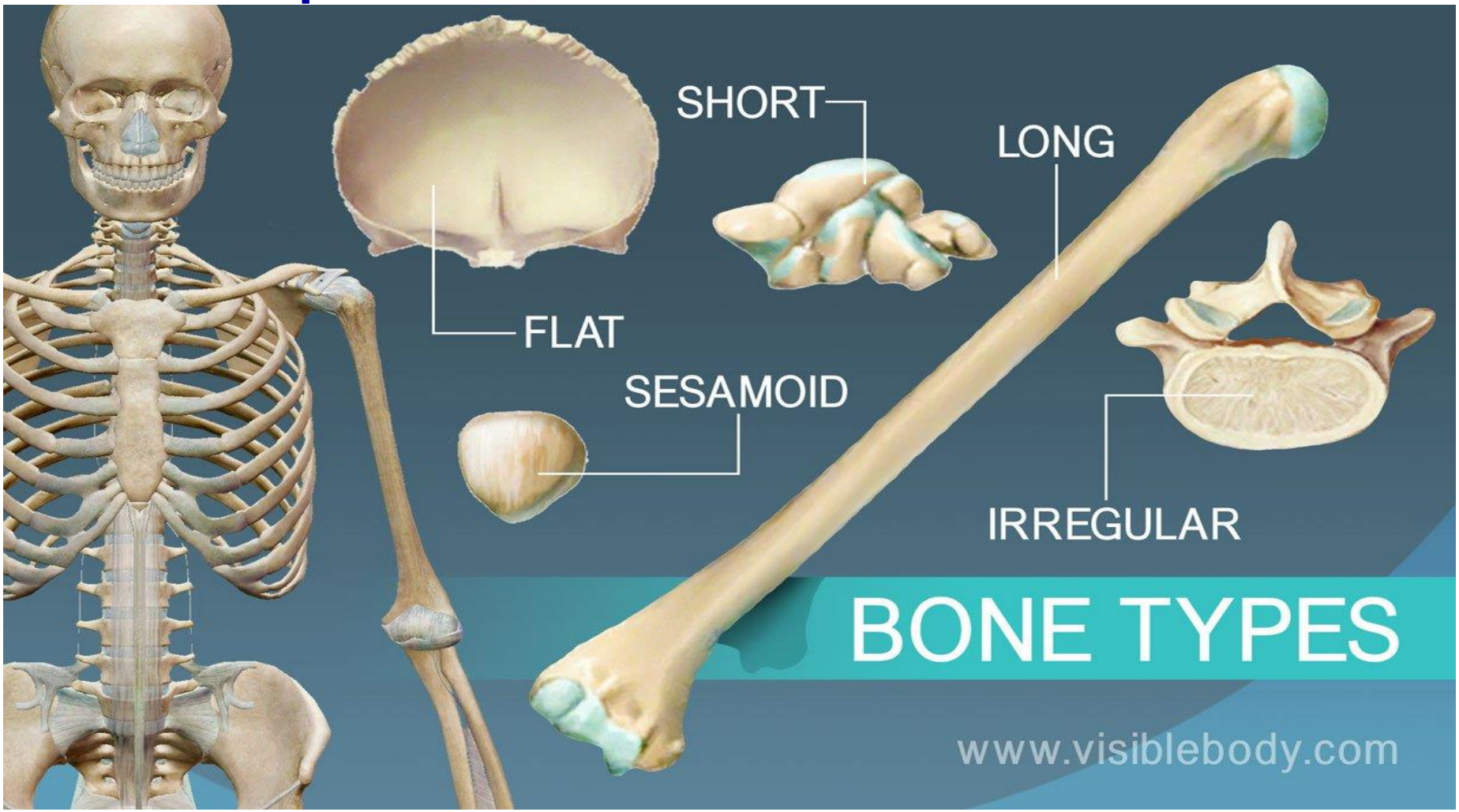
# Classification of Bones on the Basis of Shape



# Changes in the Human Skeleton

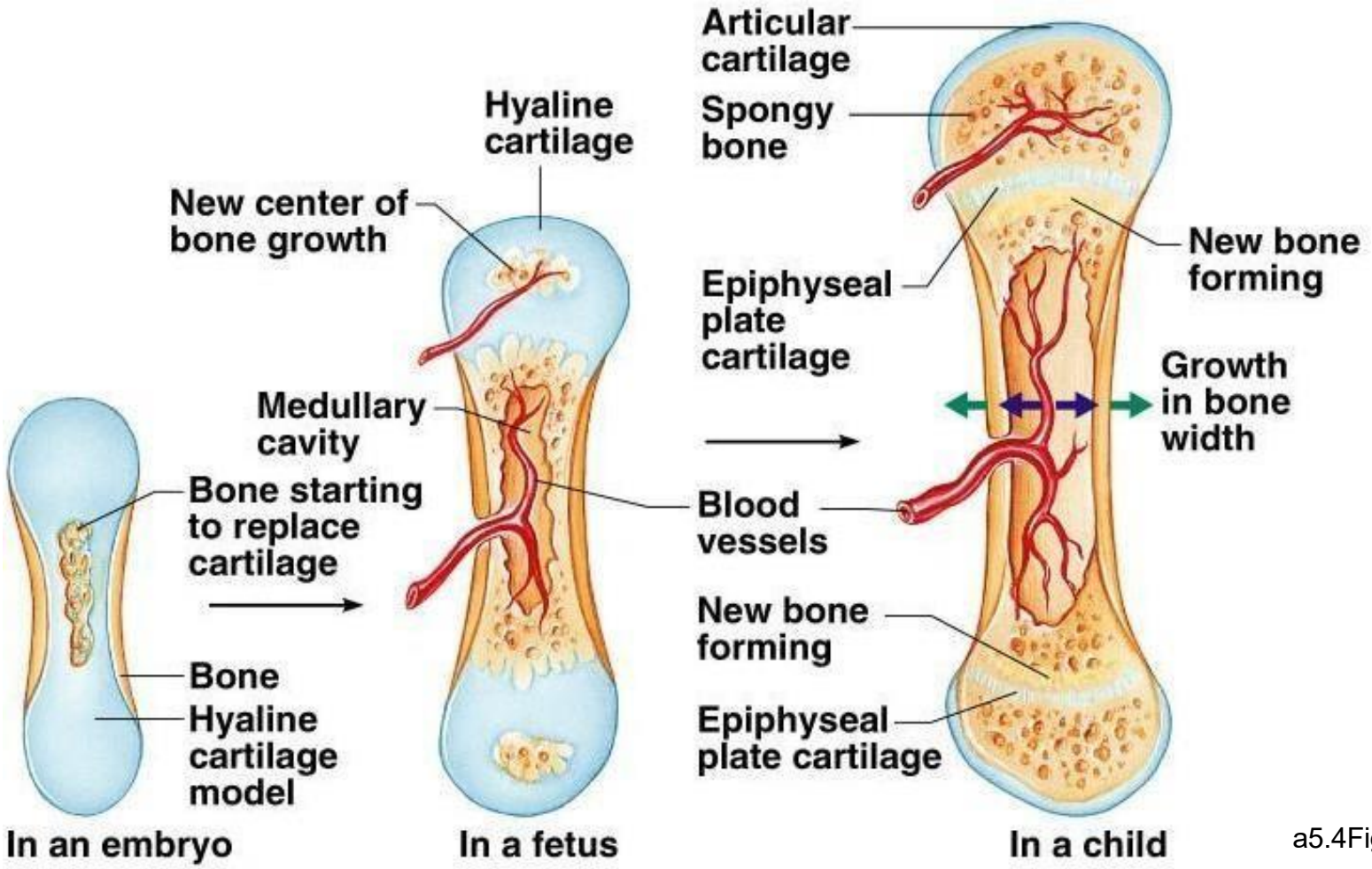
- In embryos, the skeleton is primarily hyaline cartilage
- During development, much of this cartilage is replaced by bone
- Cartilage remains in isolated areas
  - Bridge of the nose
  - Parts of ribs
  - Joints

# Bone Growth

Epiphyseal plates allow for growth of long bone during childhood

New cartilage is continuously formed Older cartilage becomes ossified Cartilage is broken down Bone replaces cartilage

# Long Bone Formation and Growth

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