SKELETAL SYSTEM
• **Skeletal system**
  
  • The skeletal system:
    ▫ Provides shape and support to the body
    ▫ Protects vital organs
    ▫ Acts as a set of levers, and together with muscles helps a person move
    ▫ Produces blood cells
    ▫ Stores calcium
TYPES OF BONES

- Long bones
- Short bones
- Flat bones
- Irregular bones
PARTS OF LONG BONES

- Diaphysis
- Epiphysis
- Articular cartilage
- Periosteum
- Medullary canal
- Endosteum
BONE MARROW

- Red marrow
- Yellow marrow
SECTIONS OF THE SKELETAL SYSTEM

• Axial skeleton
• Appendicular skeleton
The skull consists of the cranium and facial bones.

- **Cranium**
  - 1 frontal
  - 2 parietal
  - 2 temporal
  - 1 occipital
  - 1 ethmoid
  - 1 sphenoid

- **Sutures.**
AXIAL SKELETON: SKULL (CONTINUED)

- Facial bones
  - 5 nasal
  - 2 maxilla
  - 2 lacrimal
  - 2 zygomatic
  - 2 palatine
  - 1 mandible

- Sinuses
AXIAL SKELETON: SPINAL COLUMN

- 26 Vertebrae
  - 7 cervical
  - 12 thoracic
  - 5 lumbar
  - 1 sacrum
  - 1 coccyx

- Discs
AXIAL SKELETON: THORAX

- Thorax
- 12 pair Ribs
  - 7 true
  - 5 false
- Sternum
  - Manubrium
  - Gladiolus
  - Xiphoid process
APPENDICULAR SKELETON: SHOULDER GIRDLE

- Shoulder girdle
  - 2 clavicles
  - 2 scapulas.
APPENDICULAR SKELETON: ARMS AND HANDS

- Arm bones:
  - Humerus
  - Ulna
  - Radius

- Hand bones:
  - 8 carpals
  - 5 metacarpals
  - 14 phalanges
APPENDICULAR SKELETON: PELVIC GIRDLE

- Pelvic girdle is made of 2 hip bones, which connect at the symphysis pubis.
- Each hip bone is composed of 3 sections:
  - Ilium
  - Ischium
  - Pubis
APPENDICULAR SKELETON: LEGS AND FEET

- Leg bones:
  - Femur
  - Patella
  - Tibia
  - Fibula

- Foot bones:
  - 7 tarsals
  - 5 metatarsals
  - 14 phalanges
JOINTS

- Joints
- Ligaments
- Joints are classified by movement:
  - Diarthrosis—movable
  - Amphiarthrosis—partially movable
  - Synarthrosis—not movable
DISEASES AND DISORDERS OF THE SKELETAL SYSTEM

- Arthritis
- Sprain
- Dislocation
- Fracture
FRACTURES

- Greenstick
- Compound
- Simple
- Spiral
- Comminuted
OSTEOPOROSIS

- Osteoporosis is a ‘thinning’ of bones typically seen in older adults. It can lead to multiple types of fractures
• **Unchangeable risks**
  Some risk factors for osteoporosis are out of your control, including:
  • **Your sex.** Women are much more likely to develop osteoporosis than are men.
  • **Age.** The older you get, the greater your risk of osteoporosis.
  • **Race.** You're at greatest risk of osteoporosis if you're white or of Asian descent.
  • **Family history.** Having a parent or sibling with osteoporosis puts you at greater risk, especially if you also have a family history of fractures.
  • **Frame size.** Men and women who have small body frames tend to have a higher risk because they may have less bone mass to draw from as they age.

• **Hormone levels**
• **Dietary factors**
• **Steroids and other medications**
• **Lifestyle choices**
LIFESTYLE CHOICES AND OSTEOPOROSIS

- **Sedentary lifestyle.** People who spend a lot of time sitting have a higher risk of osteoporosis than do their more-active counterparts. Any weight-bearing exercise is beneficial for your bones, but walking, running, jumping, dancing and weightlifting seem particularly helpful for creating healthy bones.

- **Excessive alcohol consumption.** Regular consumption of more than two alcoholic drinks a day increases your risk of osteoporosis, possibly because alcohol can interfere with the body's ability to absorb calcium.

- **Tobacco use.** The exact role tobacco plays in osteoporosis isn't clearly understood, but researchers do know that tobacco use contributes to weak bones.