The Sternum and Ribs
Sternum

• Dagger shaped bone
• Medial part of the anterior chest wall
• 3 parts
  – Manubrium
  – Body
  – Xiphoid process
**Sternum**

- **Manubrium**
  - Articulates with the clavicle and the first rib
  - Sits near the same level of the T3 and T4 vertebrae
    - Via costal cartilage
Sternum

- **Body**
  - Middle portion of the sternum
  - Articulates with the manubrium at the sternal angle
  - Articulates with the other 9 ribs
    - Via costal cartilage
      - Only 7

- **Xiphoid process**
  - Lowest tip
    - Cartilage until adulthood
Sternum

• Injuries
  – Usually from blunt chest trauma
    • Seat belts
      – At least you don’t die
  – Rarely from aggressive athletic movements
    • Manubrium dislocation
Ribs

- **Thorax**
  - 12 ribs with the sternum and vertebral column
    - “Thoracic cage”

- **Rib Structure**
  - Head of rib articulates with body of corresponding vertebrae
  - Tubercle of rib articulates with transverse process
  - Ribs angle downward
    - Aid in breathing
Ribs

• **True Ribs**
  – First 7 ribs
  – Articulate with individual costal cartilage
    • These each articulate w/ sternum

• **False Ribs**
  – Remaining 5 ribs
  – Do not attach to sternum
    • All share costal cartilage
    • Attaches with 6th and 7th rib’s costal cartilage

• **Floating Ribs**
  – Final 2 of the “false ribs”
  – Only articulate w/ vertebrae
    • In no way attach to the sternum
Ribs

• Injuries
  – Fractured rib
    • Direct blow
    • Puncture lung, spleen, or blood vessels
  – Flail chest
    • Multiple ribs broken in more than one place
    • Ribs cannot maintain large space for lungs to fill with air
      – Eventually will puncture a lung