

# Internal Affairs

## ■ How the Skeletal System Works with Other Body Systems

## □ How Other Systems Work with the Skeletal System

### *Integumentary System*

- Provides skin with physical support
- Initiates synthesis of vitamin D needed for absorption of calcium and phosphorus

### *Muscular System*

- Provides attachment sites for muscles
- Source of calcium for muscle contraction
- Causes bones to move at joints
- Partially responsible for bone shape and strength

### *Nervous System*

- Protects central nervous system with bony encasement
- Source of calcium for neural function
- Sensory receptors provide sensations of body position and pain from bones and joints

### *Endocrine System*

- Protects endocrine glands in head and pelvis
- Source of calcium for production of certain hormones
- Hormonally controls bone growth and maintenance

### *Circulatory System*

- Bone marrow produces blood cells
- Source of calcium for cardiac muscle contraction
- Transports O<sub>2</sub> and CO<sub>2</sub>, nutrients, and hormones to and from bone tissue



### *Lymphatic System*

- Bone marrow produces and stores lymphocytes and other cells of immune system
- Maintains balanced amount of interstitial fluid within bone tissue
- Lymphocytes protect bone tissue following trauma

### *Respiratory System*

- Forms respiratory passageway through nasal cavity
- Protects lungs and aids in ventilation
- Provides O<sub>2</sub> and eliminates CO<sub>2</sub>

### *Digestive System*

- Provides organs of GI tract with physical support and protection
- Stores minerals
- Provides nutrients for growth, maintenance, and repair of bone tissue

### *Urinary System*

- Provides organs of urinary system with physical support and protection
- Eliminates metabolic wastes
- Activates vitamin D

### *Reproductive System*

- Provides organs of reproductive system with physical support and protection
- Gonads produce sex hormones that promote growth and development, and maintain bone tissue