Skeletal System

The Skeletal System:

1. Functions:

- Provides structural support for the body.
- Protects internal organs.
- Facilitates movement by working with muscles.
- Stores minerals such as calcium and phosphorus.
- Produces blood cells in the bone marrow.

2. Components:

- Bones: Hard, dense connective tissue that form the framework of the body.
- Joints: Points where bones meet and allow movement.
- Cartilage: Smooth, rubbery connective tissue that covers the ends of bones at joints.
- Ligaments: Connective tissue that attaches bone to bone.
- Tendons: Connective tissue that attaches muscle to bone.

3. Classification of Bones:

- Long bones: Longer than they are wide, e.g., femur, humerus.
- Short bones: Roughly cube-shaped, e.g., carpals, tarsals.
- Flat bones: Thin and flat, e.g., skull, ribs.
- Irregular bones: Complex shapes, e.g., vertebrae, pelvis.

4. Bone Structure:

- Compact bone: Dense and hard outer layer.
- Spongy bone: Less dense, located inside bones, contains bone marrow.
- Bone marrow: Soft tissue within bones, produces blood cells.

5. Bone Growth and Repair:

- Ossification: Process by which bones are formed.
- Bone remodeling: Continuous process of bone resorption and formation.
- Bone fractures: Breaks in bones, can be healed through proper alignment and immobilization.

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6. Common Skeletal Disorders:

- Osteoporosis: Weakening of bones due to loss of bone density.
- Arthritis: Inflammation of joints, leading to pain and stiffness.
- Scoliosis: Abnormal sideways curvature of the spine.
- Osteoarthritis: Degeneration of joint cartilage and underlying bone.

Understanding the skeletal system is crucial for maintaining overall health and mobility. Proper nutrition, exercise, and medical care play key roles in keeping the skeletal system healthy throughout life.