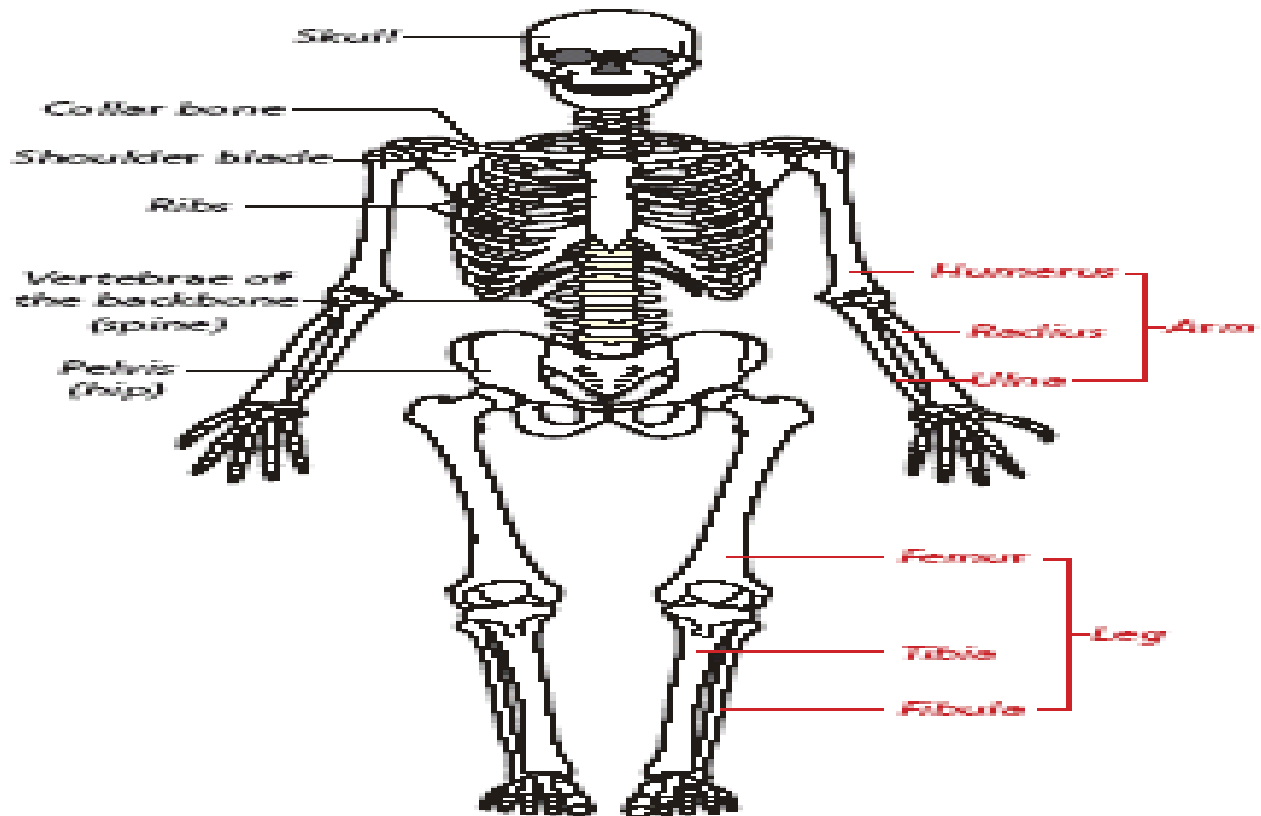


The Skeletal  
and Muscular  
System

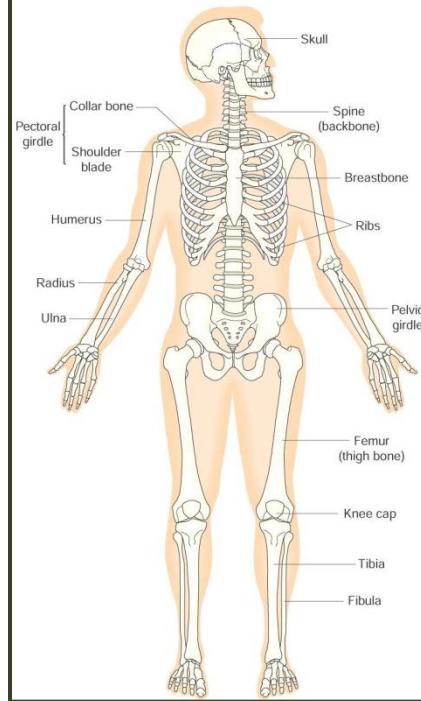
# The Skeleton

Ordinary  
Level

Higher  
Level



### MAIN BONES OF OUR SKELETON



# The Skeleton

## Find your:

- Skull
- Collar bone
- Shoulder blade
- Ribs
- Arm: Humerus  
Radius  
Ulna
- Spine
- Pelvis
- Leg: Femur  
Tibia  
Fibula



# The functions of the skeleton

# The functions of the skeleton

1. To keep the body upright
2. To allow movement
3. To protect delicate organs

# Joints



# Joints

- **Joints** are where 2 bones meet
- There are 2 main types of joints:
  1. Fixed Joints
  2. Free moving Joints

# Fixed Joints

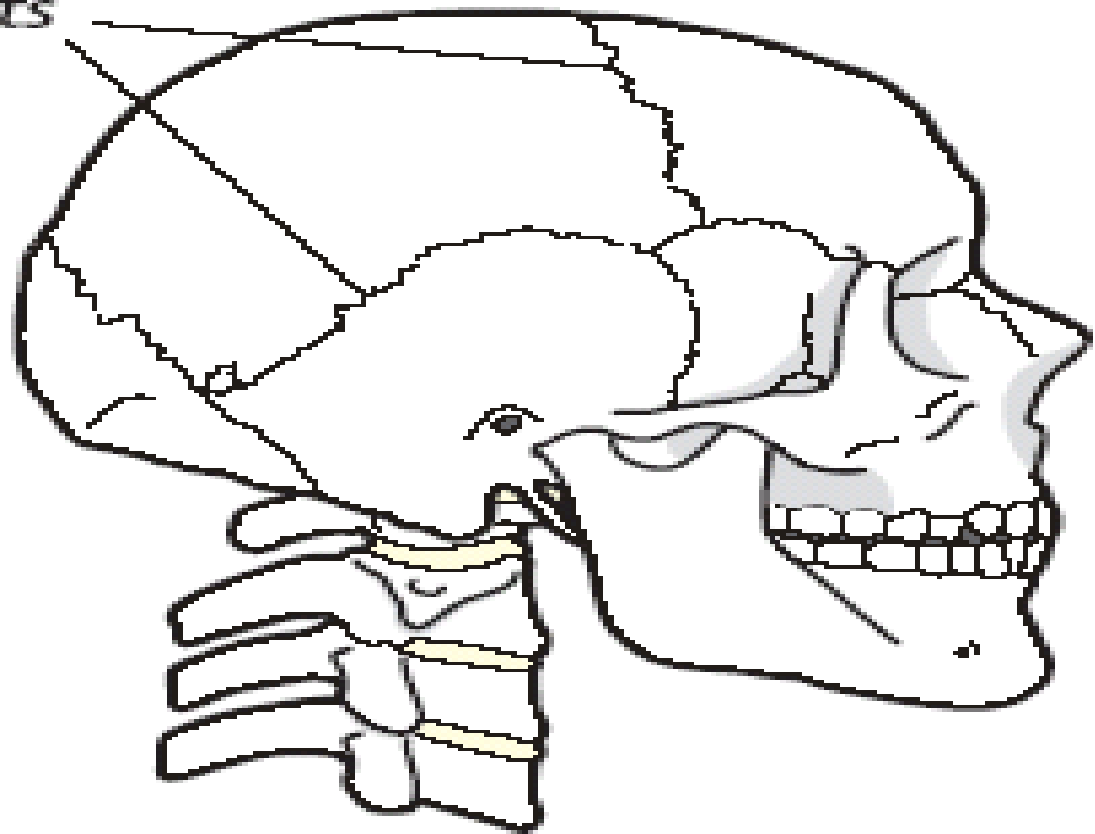
# Fixed Joints

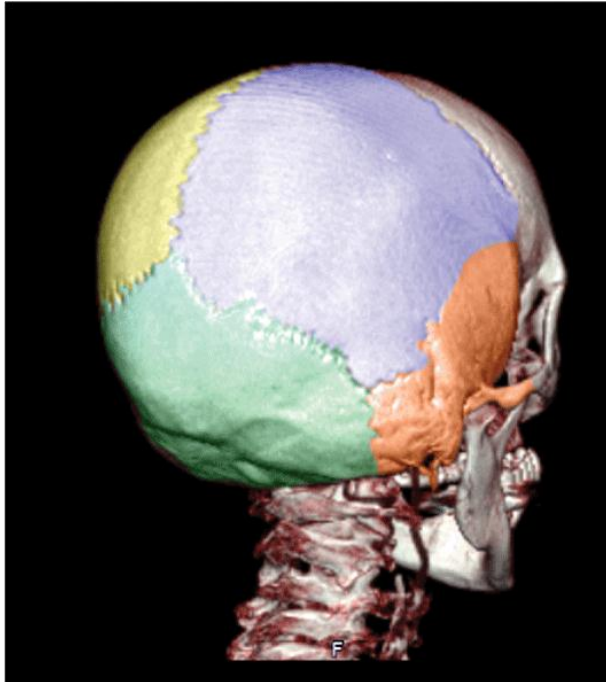
- **Fixed Joints** can't move

- **Example:** The Skull

A number of bones are fused together to form the skull. These bones never move

*Fixed joints*





▲ Fig 8.7 Fixed joints in the skull

# Free Moving Joints

# Free Moving Joints

- **Free Moving Joints** can move

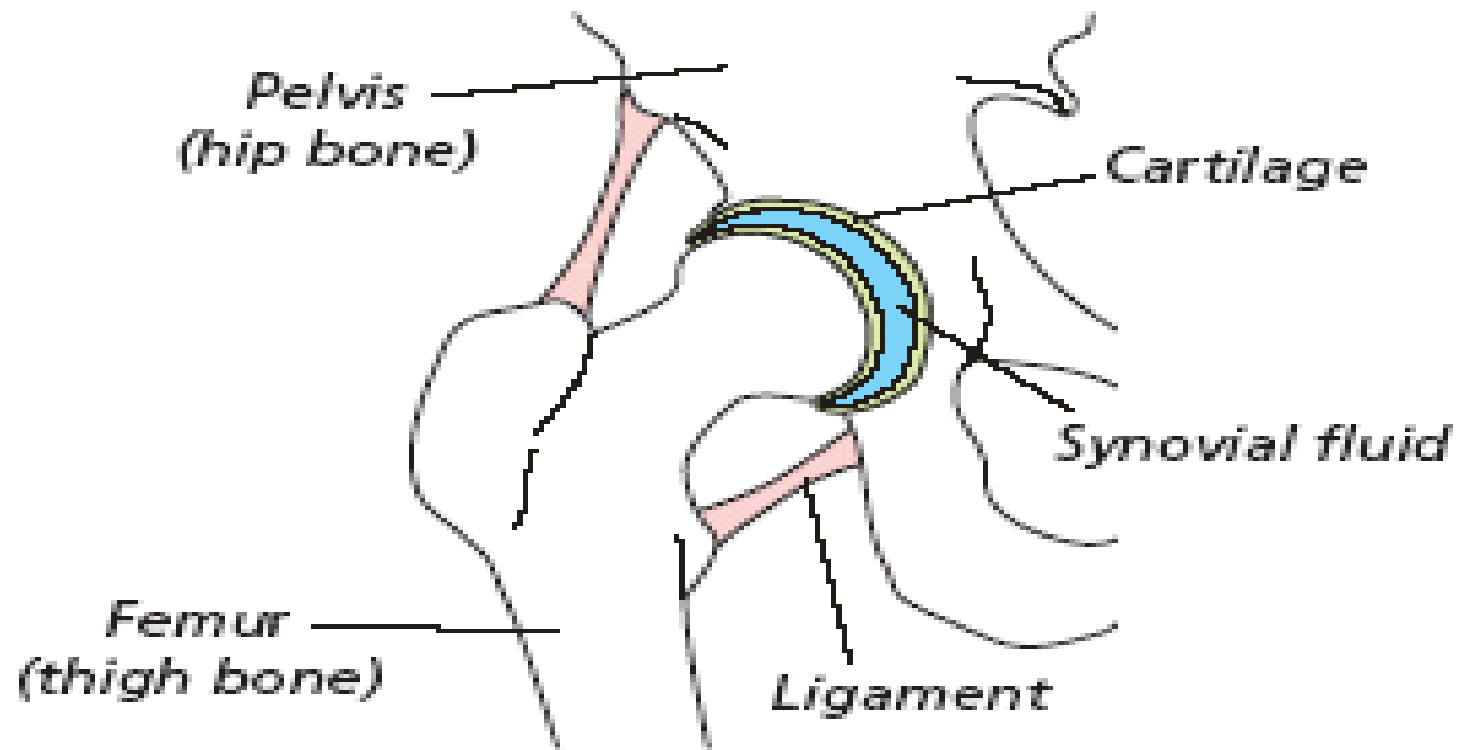
- **Example:**

1. Ball in Socket Joint
2. Hinge Joint

# Ball in Socket Joint

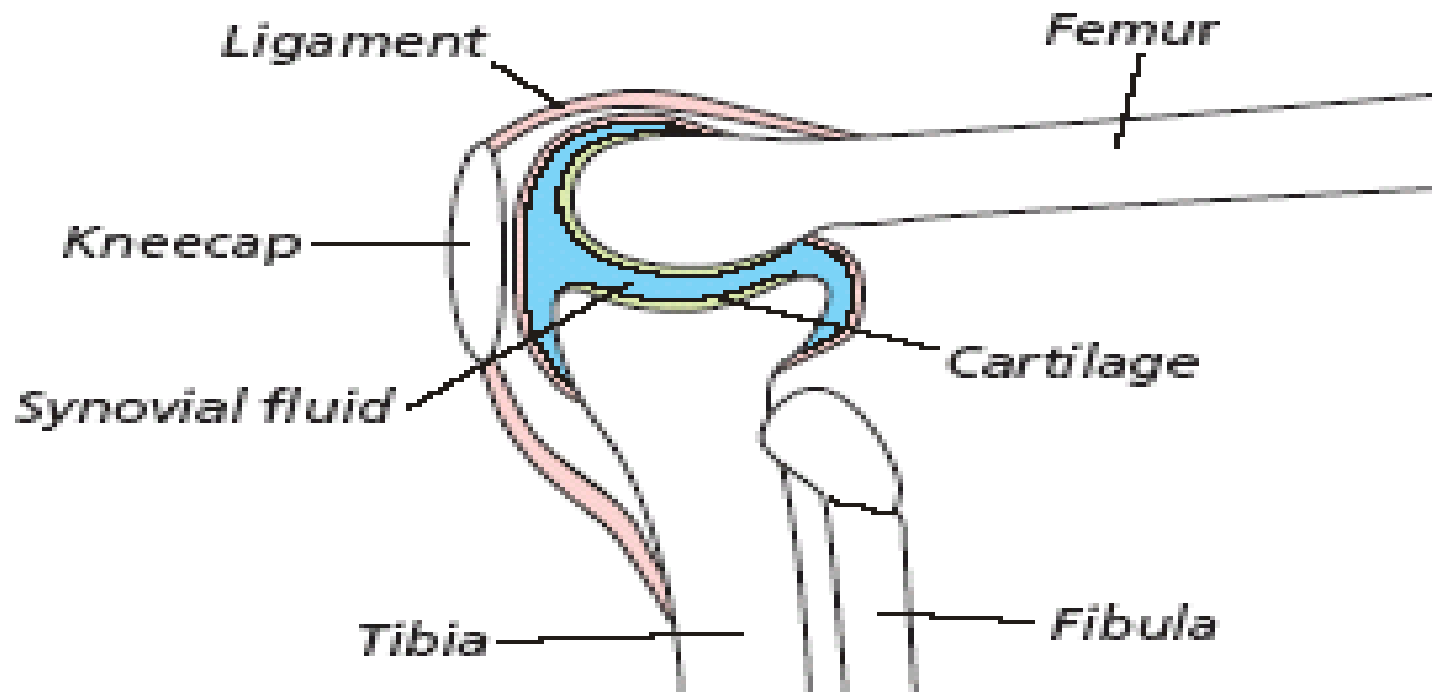
- **A Ball in Socket Joint** allows movement in all directions
- **Example:** The Shoulders and Hips

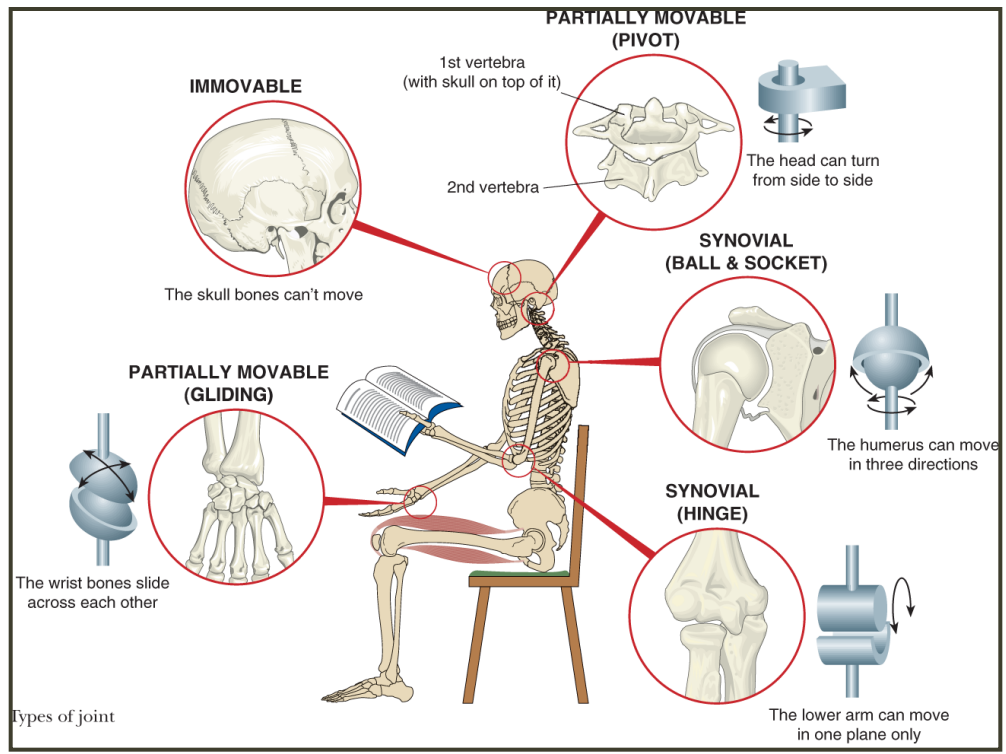




# Hinge Joint

- **A Hinge Joint** allows movement in one direction only
- **Example:** The Knee and Elbow

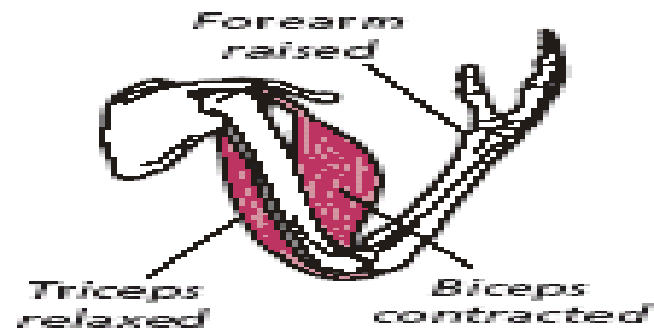
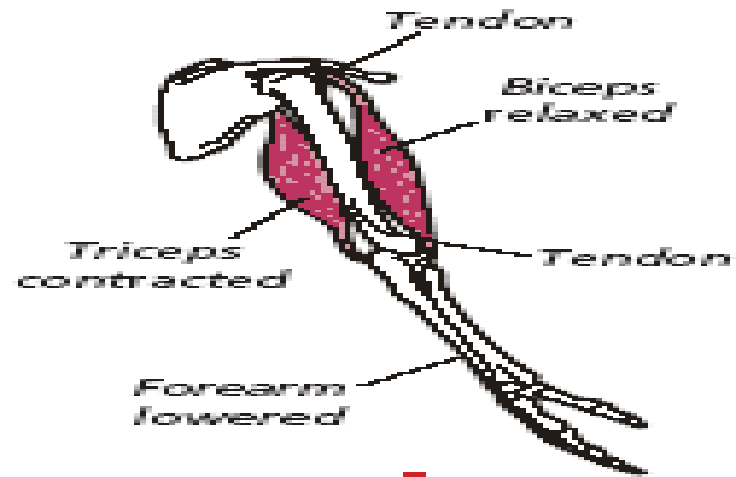




# Muscles

# Muscles

- **Muscles** allow us to move
- **Antagonistic pairs of muscles** are muscles that work in pairs
- **Example:** The Biceps and the Triceps  
When the Biceps contract the Triceps relax and when the Biceps relax the Triceps contract



# Tendons and Ligaments



# Tendons

- **Tendons** connect muscle to bone

# Ligaments

- **Ligaments** connect bone to bone