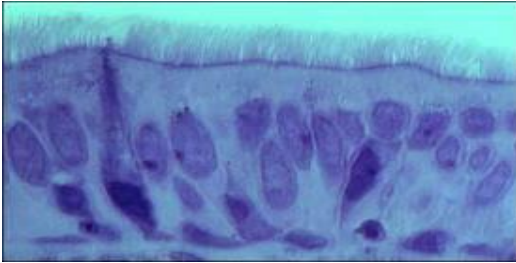
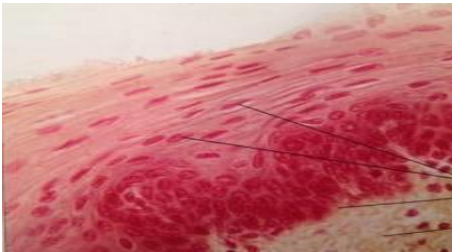


4. **Pseudostratified columnar epithelium**- secrete substances, particularly mucus; propulsion of mucus by ciliary action. **Location:** trachea and most of the upper respiratory tract.



5. **Stratified squamous epithelium**- protects underlying tissues in areas subjected to abrasion. **Location:** esophagus, mouth and vagina.



6. **Transitional epithelium**- stretches readily, permits stored urine to distend urinary organ. **Location:** uterus and bladder.



Exocrine vs Endocrine Glands

Endocrine- Ductless glands. They produce hormones, messenger chemicals that they secrete by exocytosis directly into the extracellular space.

Exocrine- secrete their products onto body surfaces (skin) or into body cavities. The unicellular glands do so directly (exocytosis), whereas the multicellular glands do so via an epithelium-walled duct that transports the secretion to the epithelial surface.

Multicellular exocrine glands

Structural classification

- ✓ **Simple glands**- have unbranched duct.
- ✓ **Compound glands**- have a branched duct.
- ✓ **Tubular**- if the secretory cells form tubes.
- ✓ **Alveolar**- if the secretory cells form small, flasklike sacs.
- ✓ **Tubuloalveolar**- if they have both types of secretory units.

Mode of Secretion

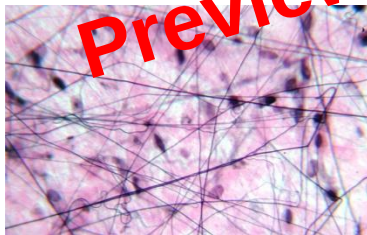
- **Merocrine**- secrete their products by exocytosis as they are produced
- **Holocrine**- accumulate their products within them until they rupture.

Connective Tissue

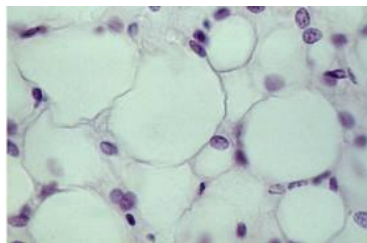
Most abundant and widely distributed of the primary tissues.

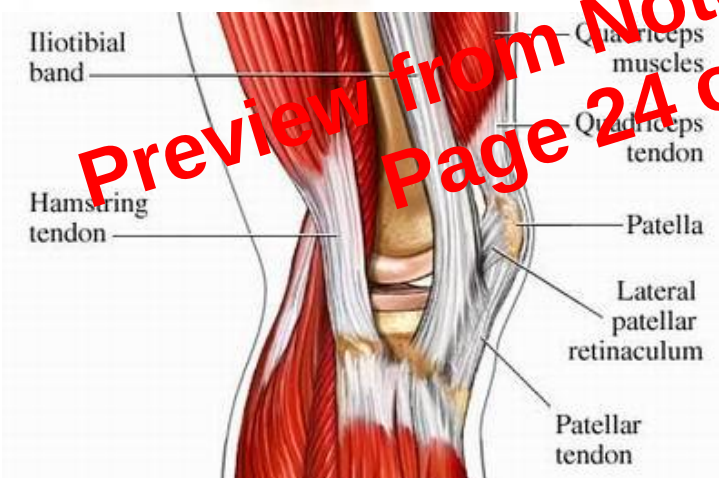
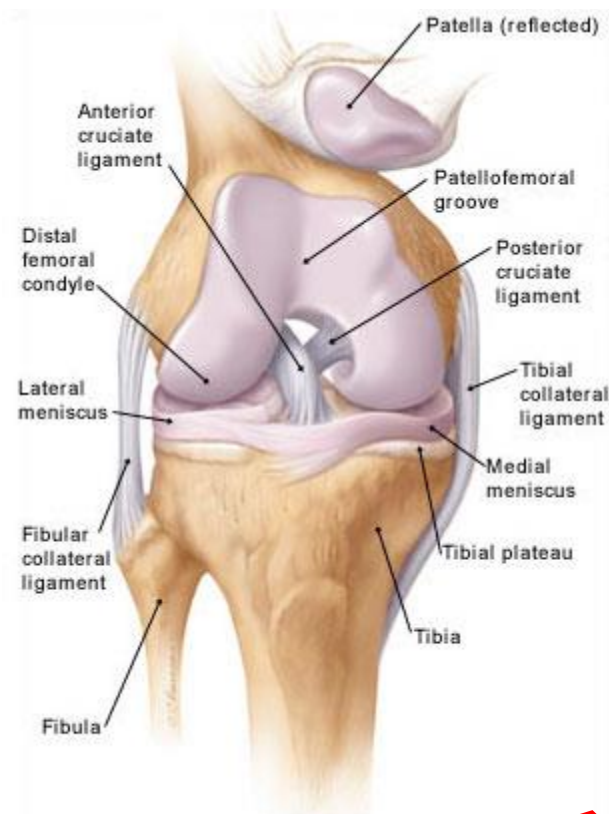
Types

Areolar- Gel-like matrix with all three fiber types; cells: fibroblasts, macrophages, mast cells, and some white blood cells. **Function:** wraps and cushions organs; its macrophages phagocytize bacteria; plays important role in inflammation, holds and conveys tissue fluid. **Location:** surrounds capillaries



Adipose- Matrix as in areolar, but very sparse; fat cells that have their nucleus pushed to the side. **Function:** provides reserve food fuel; insulates against heat loss; supports and protects organs. **Location:** around kidneys and eyeballs and breasts.





Joint movements

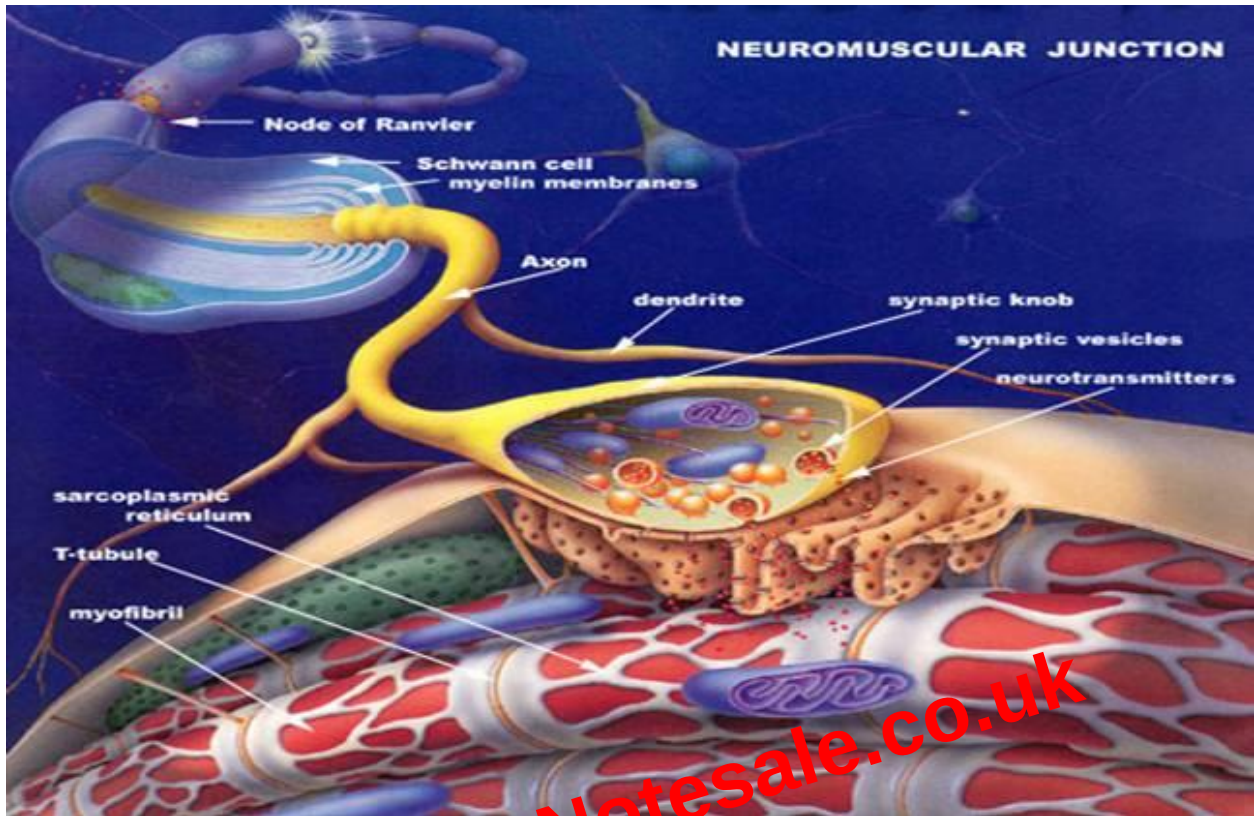
Extension- reverse of flexion like straightening a flexed knee

Abduction- moving away from the body like raising your arms like an airplane

Adduction- moving toward the body opposite of abduction like lowering your arms

Circumduction- moving your arm like a pitcher to throw a ball

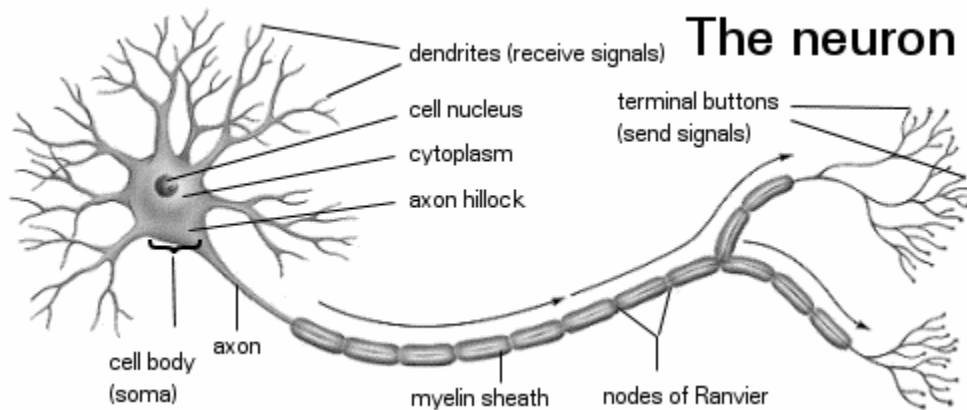
Rotation- turning a bone along its own axis like turning your head



Rigor mortis- When the body is frozen in one position because we can no longer generate action potential to unbind the actin and myosin.

Chapter 11

- Glial Cells (neuroglia)
 - Central Nervous System
 - Astrocytes
 - Bridge between capillaries and neurons
 - Microglia
 - Transforms into macrophages
 - Ependymal
 - Helps circulate cerebral spinal fluid
 - Oligodendrocytes
 - Form myelin sheath in the CNS
 - Peripheral Nervous System
 - Satellite cells
 - Surround neuron cell bodies
 - Schwann cells
 - Form myelin sheath in the PNS

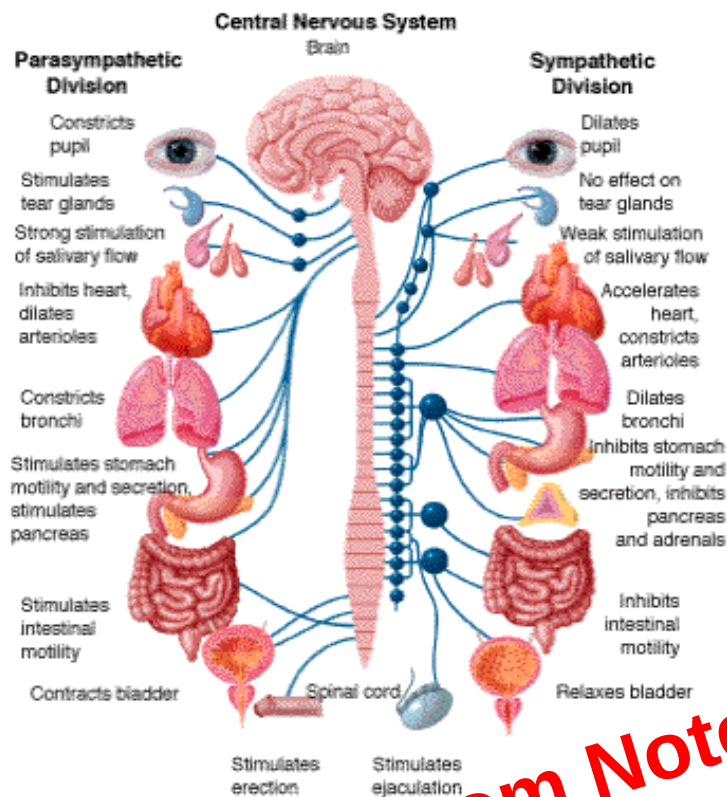


- Ion Concentration
 - Negative inside
 - K^+ and Cl^- binding
 - Cl^-
 - Negative proteins
 - Leaky potassium gates
 - Positive outside
 - K^+
 - Leaky sodium gates
 - Sodium
 - Graded potentials will open these gates then dissipate
 - Influx of this ion during an EPSP is greater than the outflow of other ions
 - Chloride
 - An increase in membrane permeability to this ion leads to an IPSP
 - Present of this ion contributes to internal negative charge of neuron at rest
 - Sodium-potassium Pump
 - Helps to restore ionic imbalance due to hyperpolarization
 - Potassium
 - The gradual closing of this gate leads to hyperpolarization
 - Movement of this ion through leaky channels aids the neuron in staying negative internally at rest
 - Ion responsible for repolarization wave
 - These ions move away from the membrane and neutralize other ions inside the cell with a graded potential

Chapter 12

- Meninges
 - Dura mater
 - Hard external covering

Chapter 14



Parasympathetic	Sympathetic
- Release only acetyl choline as a neurotransmitter - Nerves take origin from cranial nerves - Long preganglionic axons and short postganglionic axons - Helps maintain a regulate heart rate - Has short lived localized effects - Utilized the Vagus Nerve	- Release acetyl choline and norepinephrine as a neurotransmitter - Preganglionic axons synapse in the ganglia close to the CNS - Sends preganglionic axons to the adrenal medulla - Forms greater splanchnic nerves that synapse in collateral ganglia - Preganglionic fibers exit the spinal cord via the lateral horn - Uses rami communicants to connect to ganglia - Maintain blood pressure - Controls sweat glands - Increases the amount of circulating glucose in the blood - Maintains body temperature - Responsible for sexual climax