

- cervical sympathetic chain ganglia
- thoracic sympathetic chain ganglia
- lumbar sympathetic chain ganglia
- sacral sympathetic chain ganglia
- coccygeal sympathetic chain ganglia

****will ask details of neurotransmitter****

****The suprarenal (on top of kidney) medulla (shape) (adrenal medulla) does not go through a neurotransmitter, there you will have a postganglionic fiber which releases neurotransmitters called norepinephrine or noradrenaline, and epinephrine that jumps into the blood systems, very quick response, these neurotransmitters continue to circulate throughout the body so you still have increased heart rate, medulla is very very small****

Sympathetic continued

- **Suprarenal Medullae**
 - Fibers pass through sympathetic chain and the celiac ganglion without synapsing
 - Proceed to the suprarenal medulla
 - Fibers then synapse on modified neurons that when stimulated will release neurotransmitters that act as hormones:
 - Epinephrine (EPI) and norepinephrine (NOREPI)
 - Collectively the two chemicals are called catecholamines
- **Functions of the suprarenal medulla**
 - Increase alertness by activating the reticular activating system
 - Increase cardiovascular and respiratory activity
 - Increase muscle tone
 - Increase the mobilization of energy reserves
 - Increased release of lipids from adipose cells
 - Increased breakdown of glycogen in liver cells

****More lipids are coming out of your fat and your adrenal medulla****

Glycogen- stored glucose in liver and muscles

During time of flight or fight you want to make more for energy

****Endocrine cells (specialized ganglionic neurons in suprarenal medulla****

- **Summary of the Sympathetic Division*****
 - Consists of parallel chains on either side of the spinal cord
 - **Preganglionic fibers** are short and extend from the spinal cord to the sympathetic chain
 - **Postganglionic fibers** are long and extend from the spinal cord to the body organs
 - The sympathetic division shows considerable divergence
 - All preganglionic neurons release acetylcholine (ACh) / most postganglionic neurons release norepinephrine