

### ANS vs Somatic

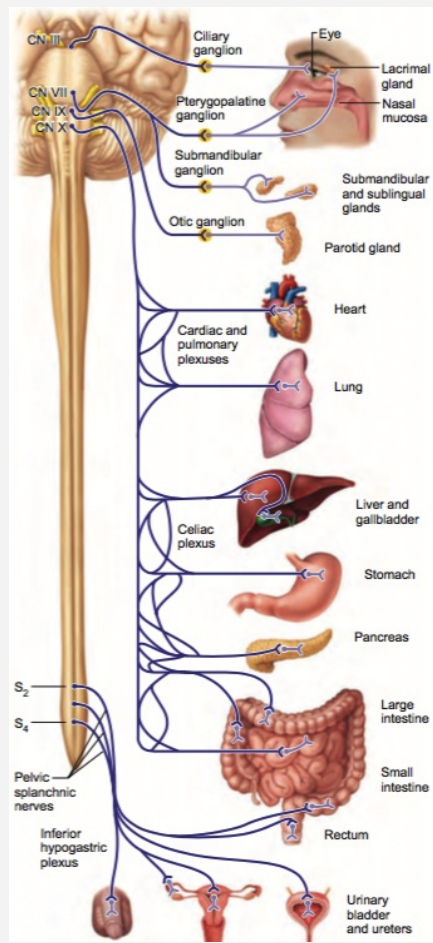
Factor	Autonomic	Somatic
Effectors	Smooth muscle and glands	Skeletal Muscle
Efferent Pathways	Two neuron chain with ganglia	Single Neuron
NT	PS: ACh / S: NE	ACh
Effects	(can be inhibitory or stimulatory)	(only stimulatory)

### Sympathetic Vs Parasympathetic

Factor	Parasympathetic	Sympathetic
Origin Site	Brain & Spinal Cord	Thoracolumbar
Pre/Post Fiber Length	Long/Short	Short/Long
Ganglia Location	In Visceral Effector Organs	Close to Spinal Cord

### Receptors in ANS

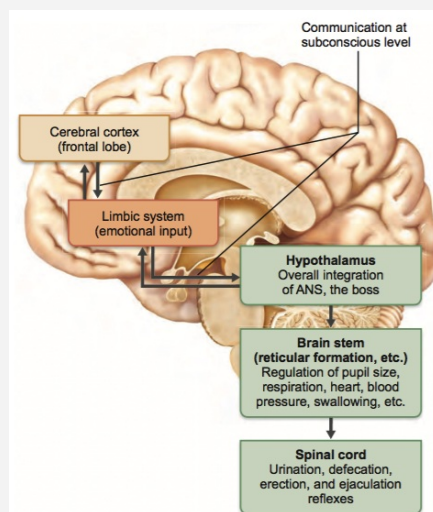
### Parasympathetic (Craniosacral)



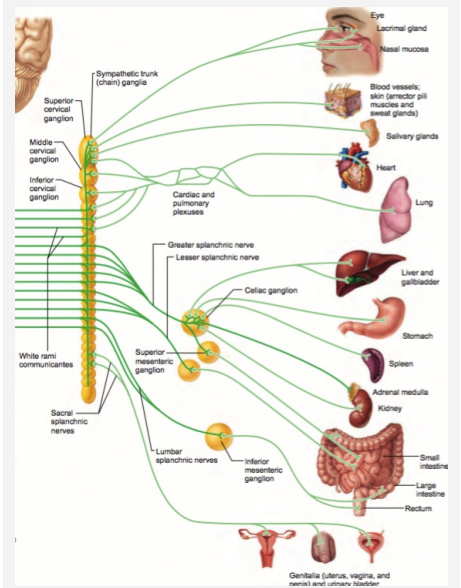
### Cranial Outflow Functions

- [III] Constrict Pupils; Bulge Lenses
- [VII] Nasal + Lacrimal Glands -or- Sublingual + Submandibular
- [IX] Activate Parotid Salivary Glands

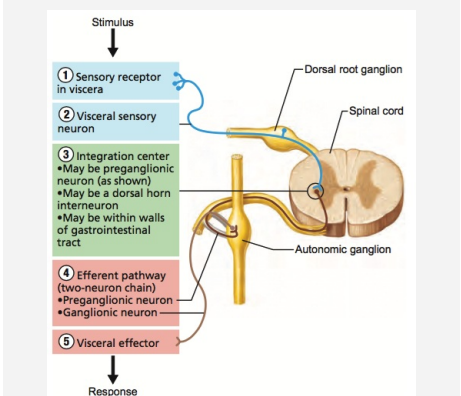
### Levels of ANS Control



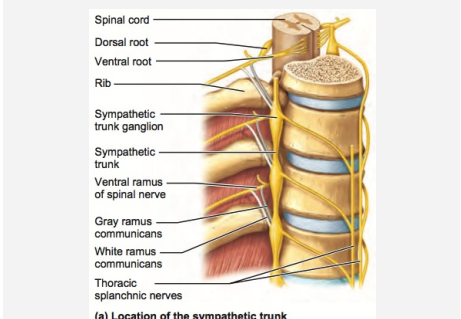
### Sympathetic Outflow



### Visceral Reflex Arc



### Sympathetic Chains



Type	Location	Effect on Binding
Nicotinic (ACh)	All Gang. Neurons; Adrenal Medullary Cells; NMJ	Ex.
Muscarinic (ACh)	All Para targets (symp. eccrine sweat glands and blood vessels in skel musc.)	Ex (xcept heart); Activation
B1 (NE/E)	HEART + kidneys + adipose tissue	HR/FORCE; RENIN
B2 (NE/E)	Lungs, Symp Tissue, BV (heart, liver, skel m.)	Mostly Inhibitory
B3 (NE/E)	Adipocytes	LIPOLYSIS
A1	BV in viscera, skin, mucosa; All Sym. targets except heart	BV CONSTRICT; pupils dilate
A2	Adrenergic axon term.; Pancreas; Platelets	Inh. NE + insulin release; Up Clotting



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Published 28th April, 2016.

Last updated 12th May, 2016.

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