Major Elective-
BMS-EC-10
Cardiovascular Biology

Factors Controlling Cardiac Output-2

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Neural mechanisms

Reflex control of cardiovascular function

baroreceptors

chemoreceptors

Chemoreceptors

Neural mechanisms

chemoreceptors

monitor pH (H^+)
$[CO_2]$
$[O_2]$

of blood and CSF

sensory neurons in: carotid body
aortic bodies
(med. oblong.)

Chemoreceptors

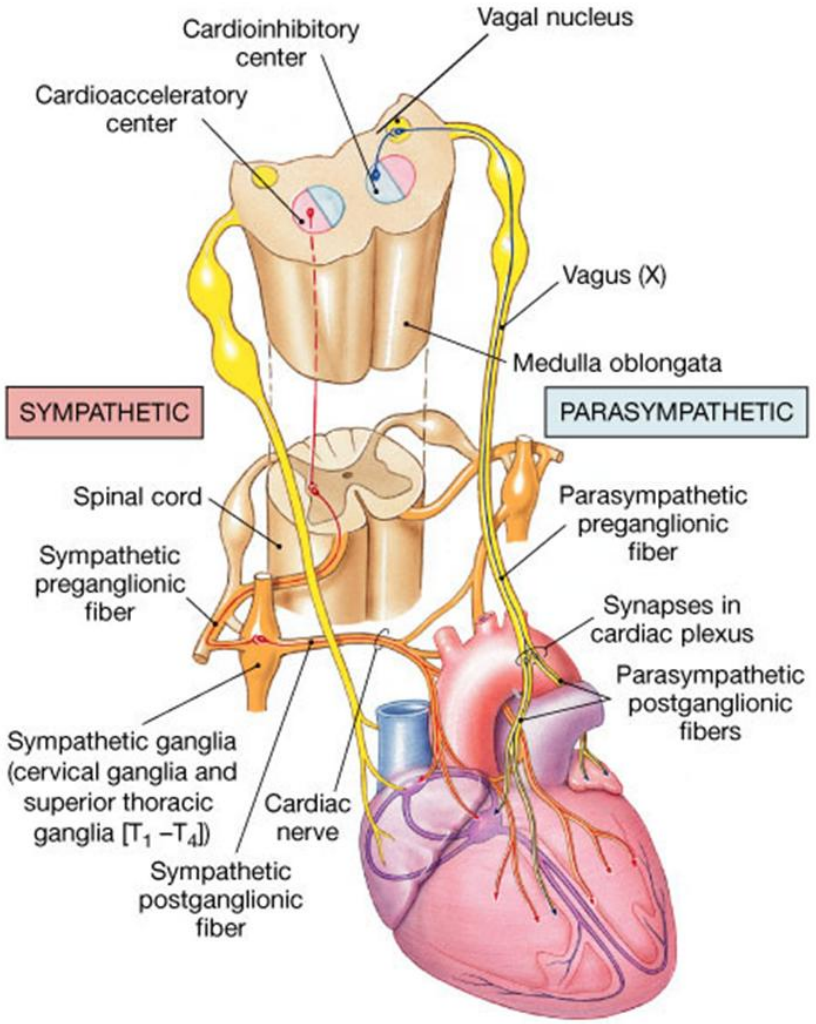
Neural mechanisms

chemoreceptors

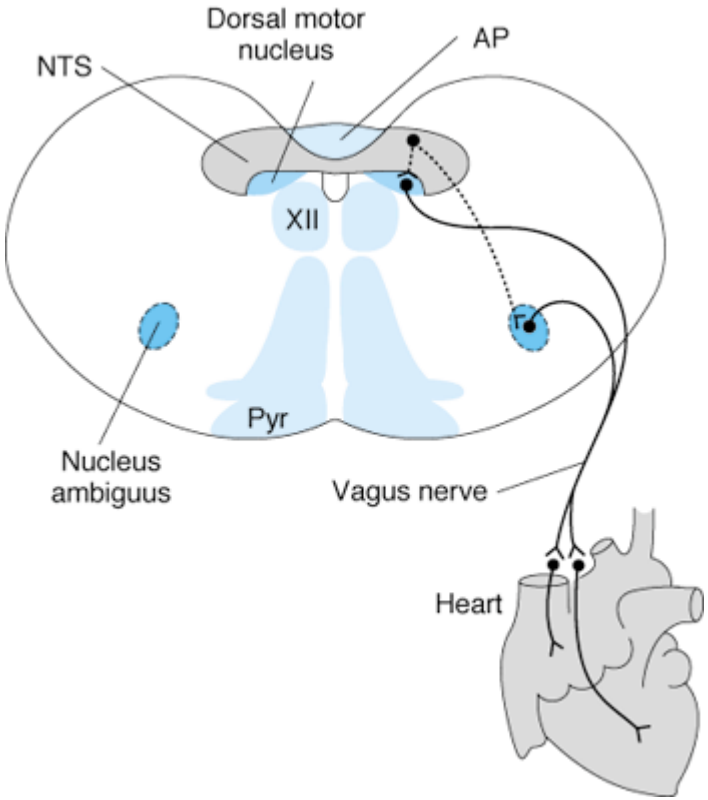
pH drops (H^+ ▲)
or ▲ $[CO_2]$
or ▼ $[O_2]$

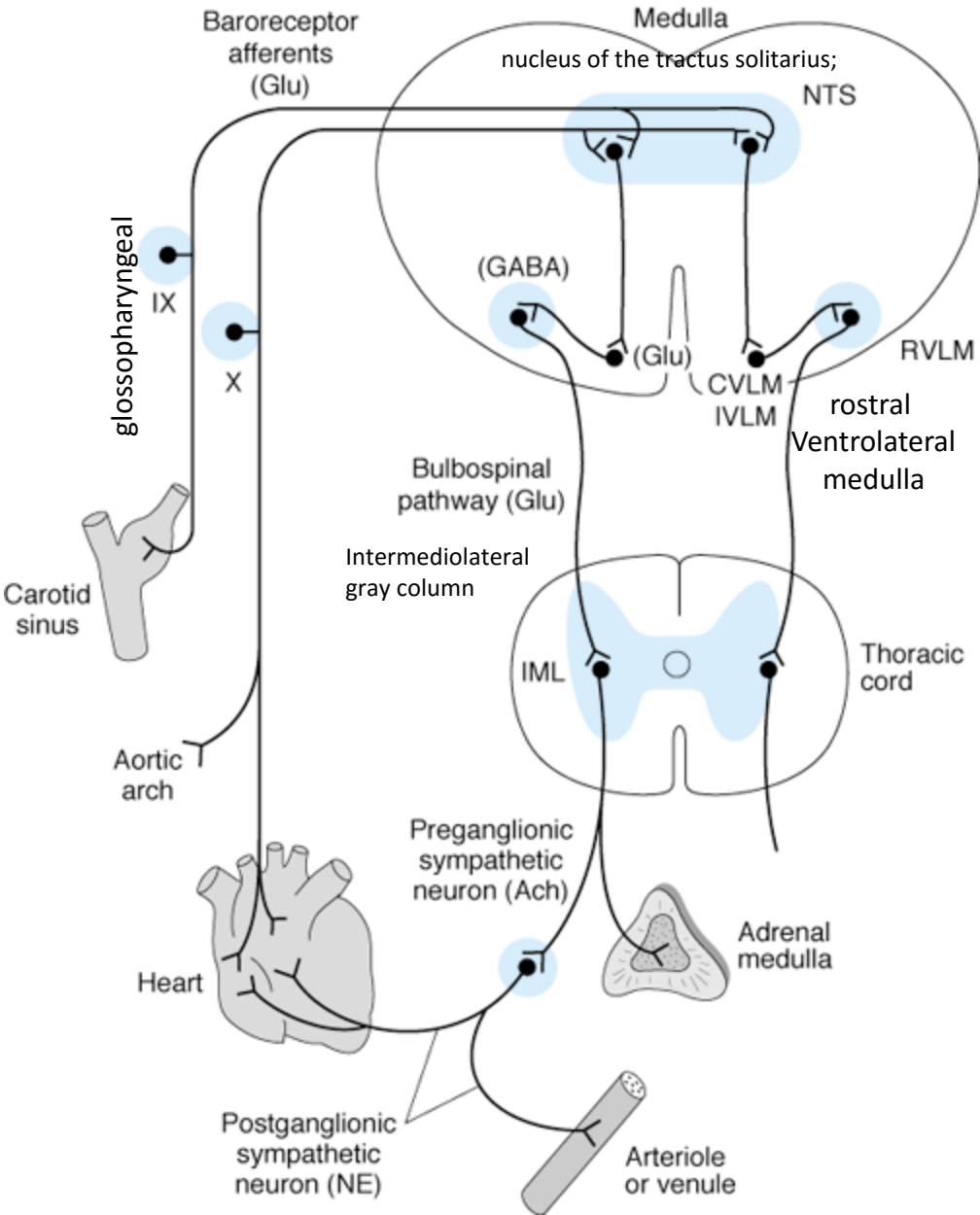
reflex stimulation of cardio-acceleratory centers (sym)

stimulate vasomotor (vasoconstriction)



Chemoreceptors





Chemoreceptors

Neural mechanisms

chemoreceptors

pH drops (H^+ ▲)
or ▲ [CO_2]
or ▼ [O_2]

increase cardiac output
peripheral vasoconstriction

increase bp

Chemoreceptors

Neural mechanisms

chemoreceptors

pH drops (H^+ ▲)
or ▲ $[CO_2]$
or ▼ $[O_2]$

receptors in medulla obl.

stimulate respiratory centers

more O_2 and more venous return

Chemoreceptors

Neural mechanisms

chemoreceptors

pH drops (H^+ ▲)
or ▲ [CO_2]
or ▼ [O_2]

increased bp and resp.

more O_2 to cells

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The End

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