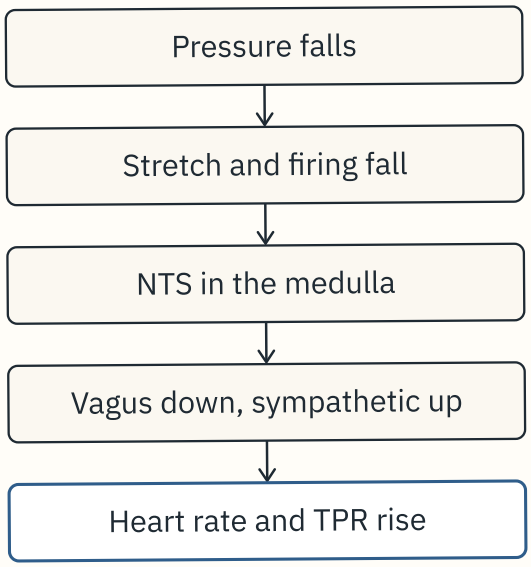
Baroreceptor reflex

Trace the arc and predict the response



Step by step

1. Sensor: stretch receptors in artery wall
2. Carotid sinus: CN IX; aortic arch: CN X
3. Both end in NTS (medulla)
4. Outputs: vagus to SA node; sympathetic to heart, arterioles, veins

Pressure	Firing	Vagus	Sympathetic
Rises	Up	Up	Down
Falls	Down	Down	Up

Pattern by pressure change

MAP

$$MAP = CO \times TPR$$

three dials: heart rate, contractility, vessel tone

Rule of thumb

More stretch, more firing

Firing down, vagus down, sympathetic up

The intact reflex opposes the change

Exam traps

- The medulla reads less firing as lower pressure, not as nothing.
- Carotid massage fakes high pressure: vagal tone up, heart rate down.
- Carotid massage can fail and can cause a stroke in carotid disease.

The baroreceptor reflex: from stretch to vagal and sympathetic output

Video, written lesson, practice question and sources: medservatory.com/usmle-step-1/cardiovascular/baroreceptor-reflex

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