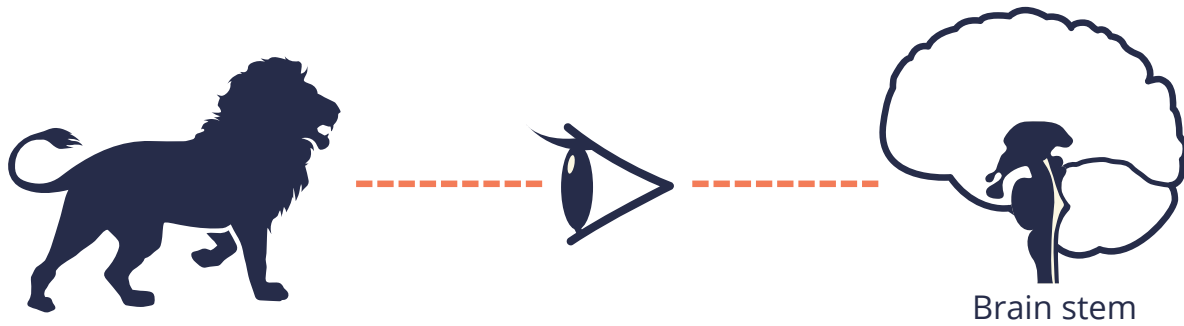


# WHAT HAPPENS IN THE BRAIN

## during a potentially traumatic event?

**The brain stem is critical in fast, defensive responses. It's directly connected with the retina.**

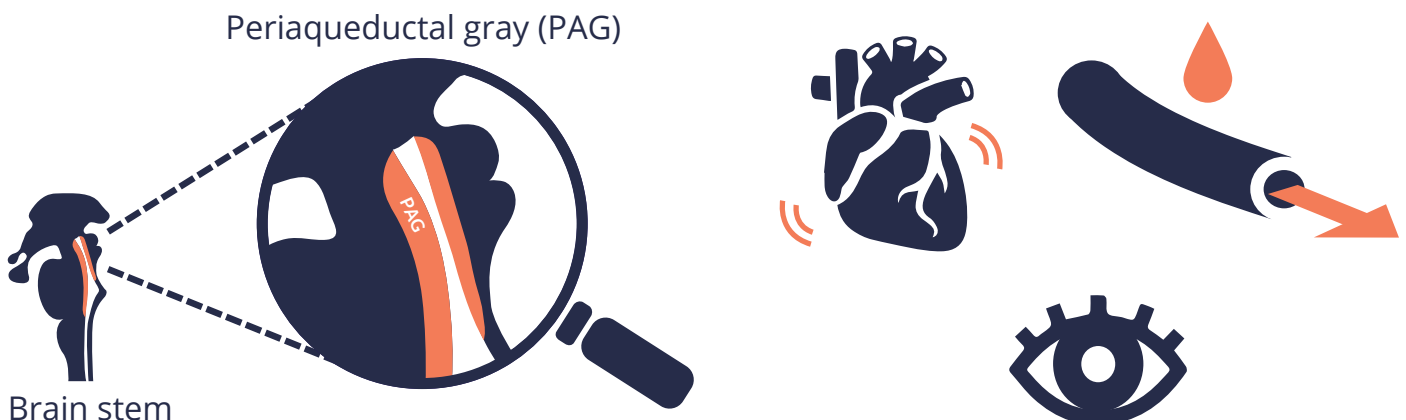
The retina sends visual information to the brain stem immediately - before higher levels of the brain are even aware of the threat.



**If the predator moves closer, the periaqueductal gray initiates a fight or flight response.**

The periaqueductal gray activates the sympathetic nervous system.

Heart rate goes up. Blood flow to muscles increases. Blood pressure increases. Pupils dilate.



## **But it's not always safe or possible to fight or escape.**

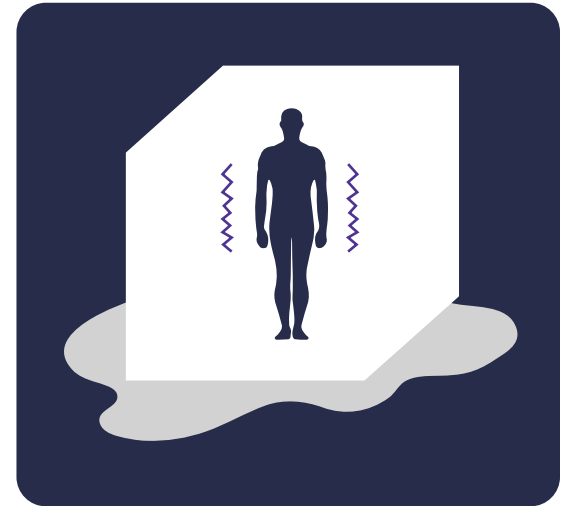
That's when a person may enter the freeze response, or feigned death.

Now the periaqueductal gray activates the parasympathetic nervous system as well.

Muscles get tight and freeze. Both gaze and breath may freeze.

### **This is not a cognitive choice.**

These "decisions" are made at the level of the brain stem and the nervous system.



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## **If the predator doesn't move away, the person may shutdown completely.**

Heart rate drops. Respiratory rate drops. Some people stop breathing. Muscles become limp. Metabolism shuts down. Endorphins are released.

The person enters a state of "no pain". They are no longer aware of their surroundings.

### **During inescapable trauma, this is a very adaptive way for the brain and body to respond.**

