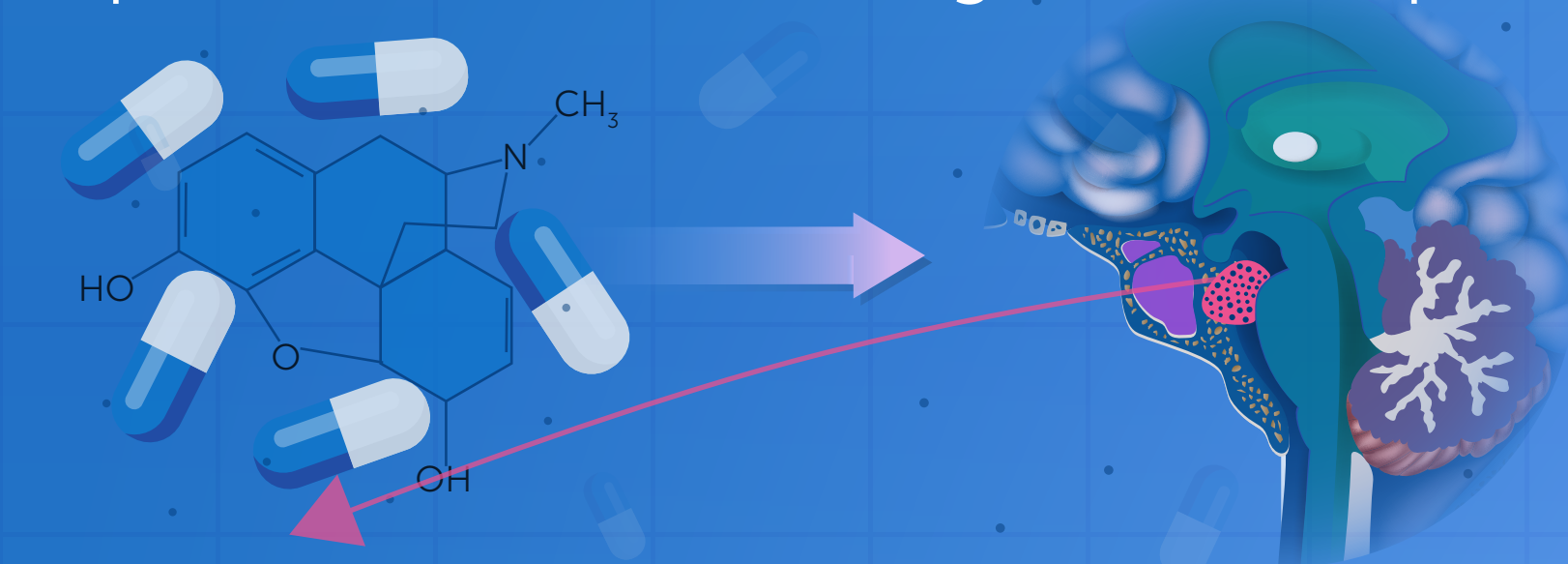


# Morphine Injection into Right Amygdala Relieves Neuropathic Pain

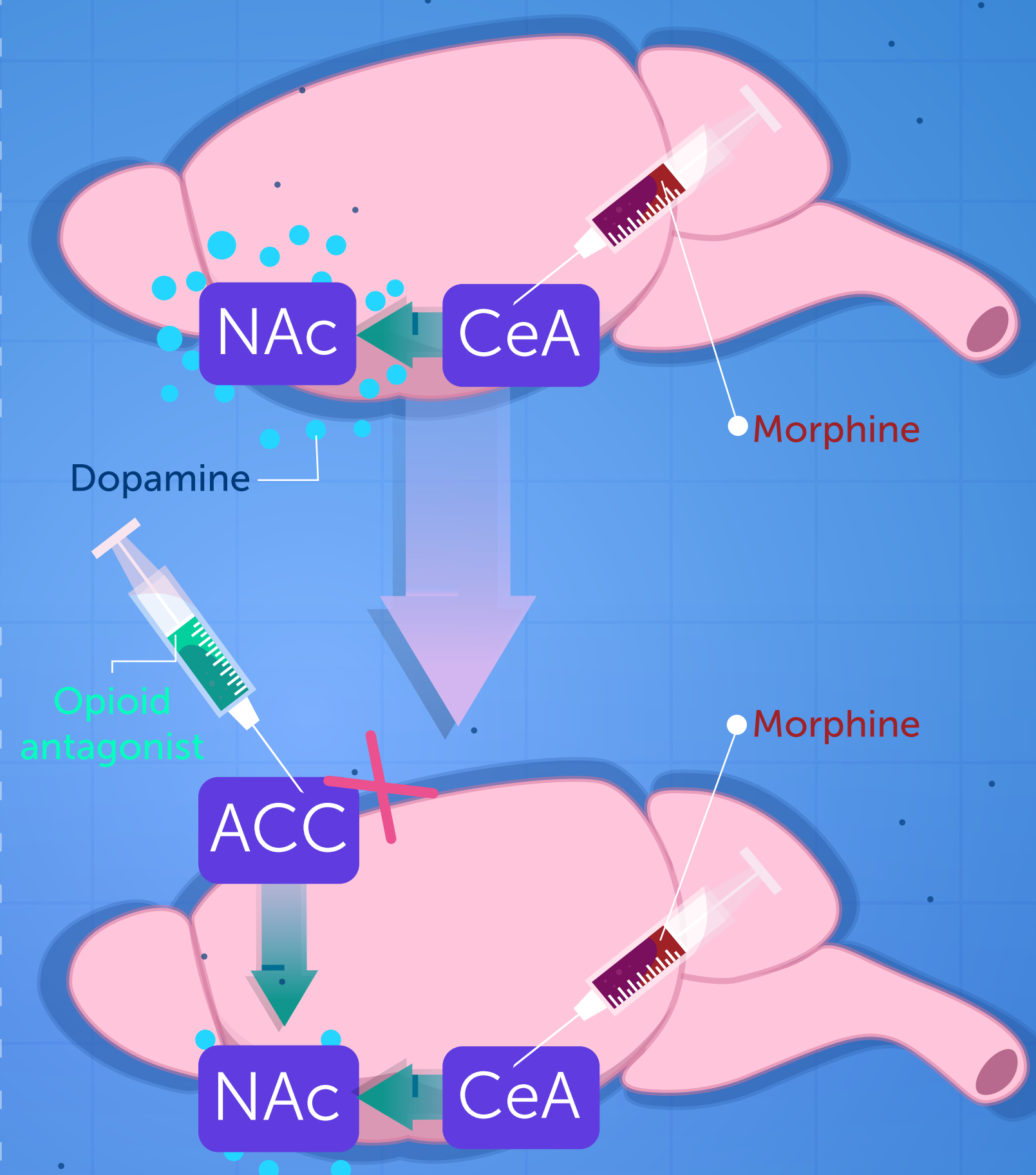
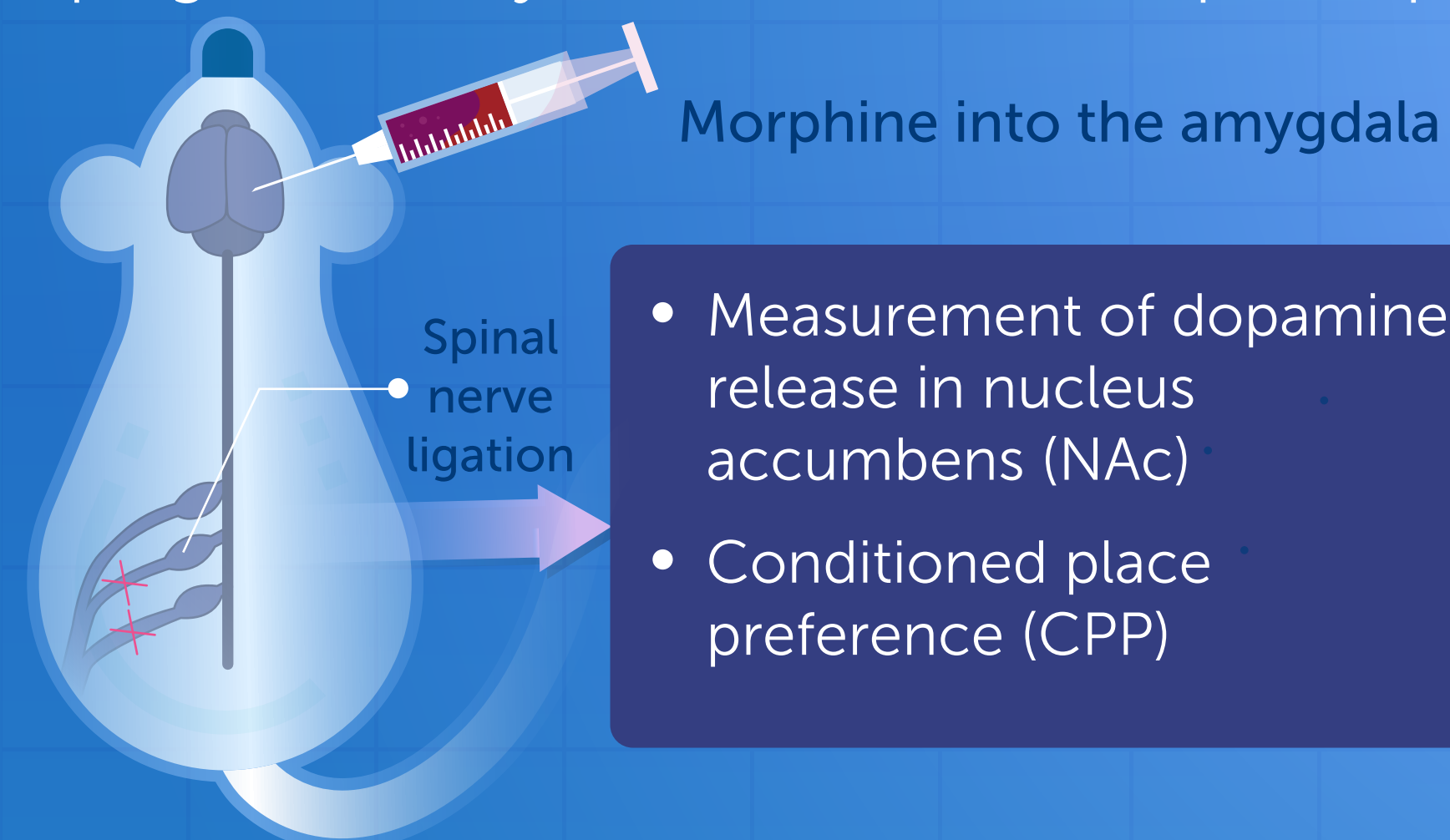
Opioids are a class of drugs that offer pain relief



**Amygdala** has numerous opioid receptors

**How does activation of opioid receptors in the amygdala elicit neuropathic pain relief?**

Left spinal nerve ligation (SNL) in male Sprague-Dawley rats to induce neuropathic pain



Right central amygdala nucleus (CeA) morphine produced CPP and NAc dopamine release

Blocking opioid receptors in rostral anterior cingulate cortex (ACC) abolished NAc dopamine release and CPP from CeA morphine

**Modulation of pain by morphine in the amygdala requires opioid signaling in the anterior cingulate cortex**

Selective modulation of tonic aversive qualities of neuropathic pain by morphine in the central nucleus of the amygdala requires endogenous opioid signaling in the anterior cingulate cortex

Navratilova *et al.* (2019) | Pain

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