

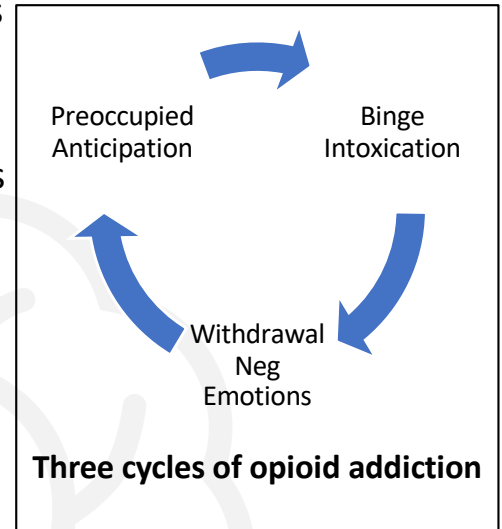
“Neurobiology of the Opioid Epidemic”

Opioids bind to brain cells, spinal cord cells, and other cells throughout the body.

Opioid receptors influence the information that is taken from the surface of the cell to which it binds to the nucleus of that cell, and they tell the body, **“don’t feel pain”** and often they tell the body, **“take more opioids”** and in the case of overdose, **“stop breathing.”**

Opioids change the DNA of neurons, or brain cells; they affect synapses, or the space between cells where messages are passed, and they affect neural circuits, or the pathways in our brain that regulate our emotions.

Opioids rewire the brains' reward seeking circuits, it's systems for stress and pain and breathing. Changes to the brain can last more than a year after a person has stopped taking opioids and some may last a lifetime.



DSM-V Diagnostic Criteria

Everyone’s Different!



How quickly an opioid use disorder forms and how severe it becomes varies by biological, environmental, and psychological factors.

- Opioids are often taken in larger amounts or over a longer period of time than intended.
- There is a persistent desire or unsuccessful efforts to cut down or control opioid use.
- A great deal of time is spent in activities necessary to obtain the opioid, use the opioid, or recover from its effects.
- Craving, or a strong desire to use opioids.
- Recurrent opioid use resulting in failure to fulfill major role obligations at work, school or home.
- Continued opioid use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of opioids.
- Important social, occupational or recreational activities are given up or reduced because of opioid use.
- Recurrent opioid use in situations in which it is physically hazardous.
- Continued use despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by opioids.
- Tolerance, as defined by either of the following:(a) a need for markedly increased amounts of opioids to achieve intoxication or desired effect(b) markedly diminished effect with continued use of the same amount of an opioid
- Withdrawal, as manifested by either of the following:(a) the characteristic opioid withdrawal syndrome(b) the same (or a closely related) substance are taken to relieve or avoid withdrawal symptoms

TAKE-AWAYS

- ✓ Opioid use disorder is a chronic health condition that requires ongoing treatment.
- ✓ In many cases a person will need medication to treat an opioid use disorder

Source: Valentino, R. J., Koshetz, W., & Volkow, N. D. (Eds) (2020). Neurobiology of the opioid epidemic. *Biological psychiatry*, 87(1),.