

Opioid Use Disorder (OUD) and the Brain



- Pleasure is how a brain identifies and reinforces beneficial behaviors by releasing the neurotransmitter dopamine. Whenever the reward circuit in the brain is activated by a pleasurable experience, a burst of dopamine signals that something important is happening that needs to be remembered, causing changes in neural connectivity.



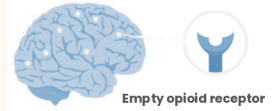
- Large surges of dopamine “teach” the brain to seek opioids at the expense of other, healthier goals and activities.



- Over time, the brain of someone who uses opioids adjusts by producing fewer receptors that can receive signals in the reward center of the brain. Now, the person needs to keep taking opioids to experience even a normal level of reward—reinforcing their dependence on the opioids*



- Opioid withdrawal refers to the physical and mental symptoms a person experiences when they stop or reduce the intake of an opioid.
- Even after opioids are out of the system, and physical effects of withdrawal have ended, psychological symptoms experienced by people who have used opioids can continue for years after the last use.



- The brain contains opioid receptors where opioids will “sit” when consumed. These receptors help to transmit the effects of the opioid throughout the body.
- MOUD utilizes opioid receptors to help block the effects of other opioids by either filling, partially filling, or blocking the receptor.

Medications for Opioid Use Disorder (MOUD)

Methadone



- Methadone fully occupies opioid receptors which helps the patient manage their opioid cravings and withdrawal symptoms with an FDA approved medication of known strength and purity.
- Methadone helps prevent overdose from a recurrence of use by maintaining an opioid tolerance.
- Methadone requires daily dosing and initial doses are given under medical supervision in a Federally approved clinic or hospital setting.
- Patients taking opioids in addition to their methadone or using other drugs that depress breathing, such as alcohol and benzodiazepine, are also putting themselves at increased risk for overdose
- Methadone is considered a safe therapy when given under medical supervision and with recommended therapy options or counseling.



When a person has moved from occasional use of opioids to an opioid use disorder, their daily life is a process to continue using to prevent the onset of debilitating withdrawal symptoms; needing more and more opioids over time to prevent themselves from feeling sick.

Buprenorphine



- Buprenorphine helps a patient manage cravings and reduce withdrawal symptoms while not completely binding to the opioid receptor.
- Buprenorphine has a ceiling effect; its effects will plateau and will not increase even with repeated dosing, giving buprenorphine a low overdose potential.
- Buprenorphine is available as a tablet or as an extended release injectable.
- Buprenorphine is also formulated as a combination product with naloxone that is available as an oral tablet and as a sublingual film.
- Buprenorphine helps prevent overdose from a recurrence of use by maintaining an opioid tolerance.

Naltrexone



- Naltrexone can help reduce cravings by blocking the effects of opioids by binding more strongly to the receptor than the opioids.
- Naltrexone is available as an oral tablet or as an extended release injectable.
- No risk of physical dependency and has zero abuse potential.
- Naltrexone is neither a scheduled nor controlled substance.
- Naltrexone does not maintain an opioid tolerance for the patient who will be at increased overdose risk should they have a recurrence of use after stopping this medication.
- Med compliance and follow up monthly injections are crucial for the success of this therapy.

Which medication is best?

- There is no “One Size Fits All” when it comes to treating OUD.
- Each patient has their own unique body, mind, medical history, and recovery goals that will impact how they respond to a medication.
- Encourage your client to talk to their medical team about their accessibility needs and recovery goals so they can find a medication that will work best for them.