

Managing Pain in the Patient with OUD

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Financial Disclosures

The following session leader has no relevant Financial relationships with ineligible companies to disclose:

Learning Objectives

- Describe the pain pathway and relevant anatomy
- Discuss opioid physiology and the eventual development of tolerance and withdrawal
- Establish and Review interplay and connection between pain and OUD
- Identify options and effective treatment of the patient with OUD and chronic pain

Introduction

- The generally accepted definition of pain, as adopted in 1979 by the International Association for the Study of Pain (IASP), is “an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage” [1].

Looking Closer

- Is pain a symptom?
- Is pain an experience?
- Is pain a pathological entity?
- Is pain a cause of pathology?

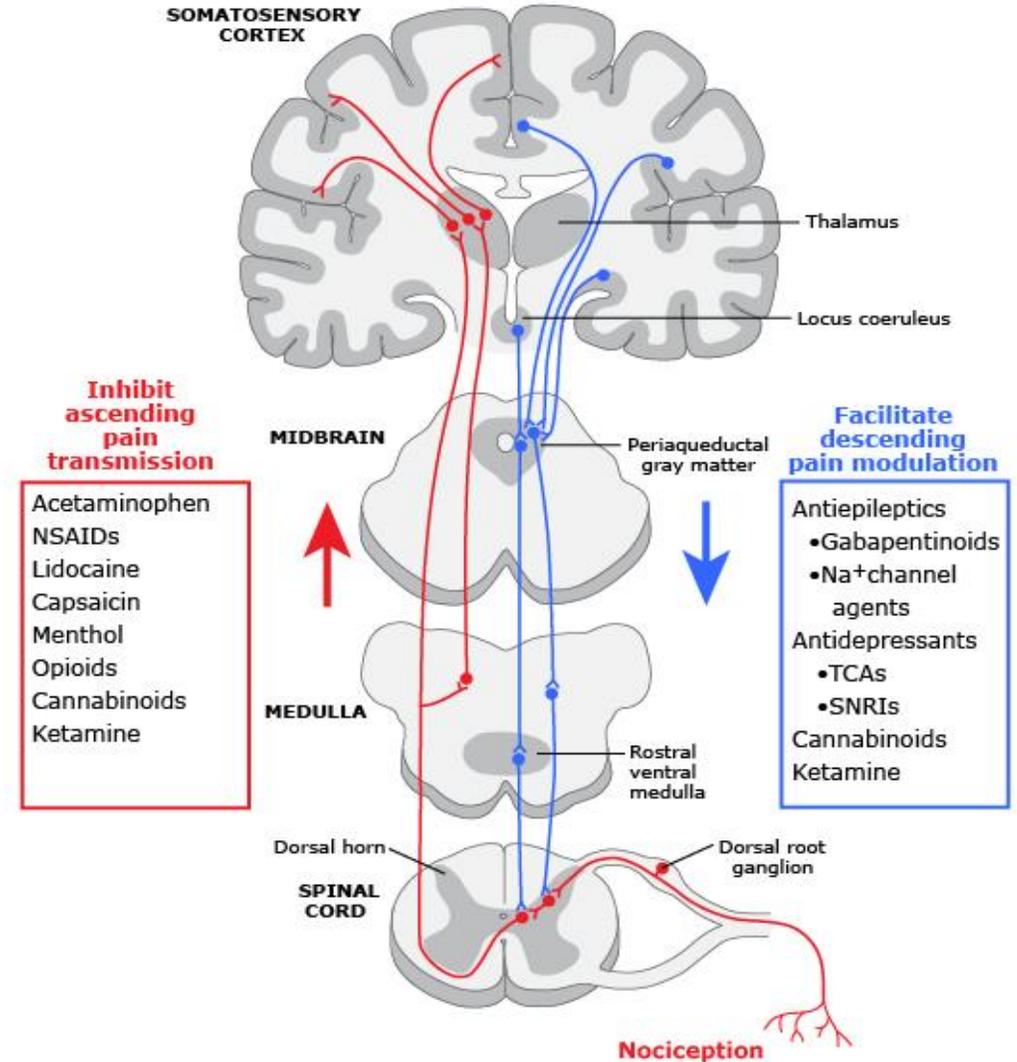
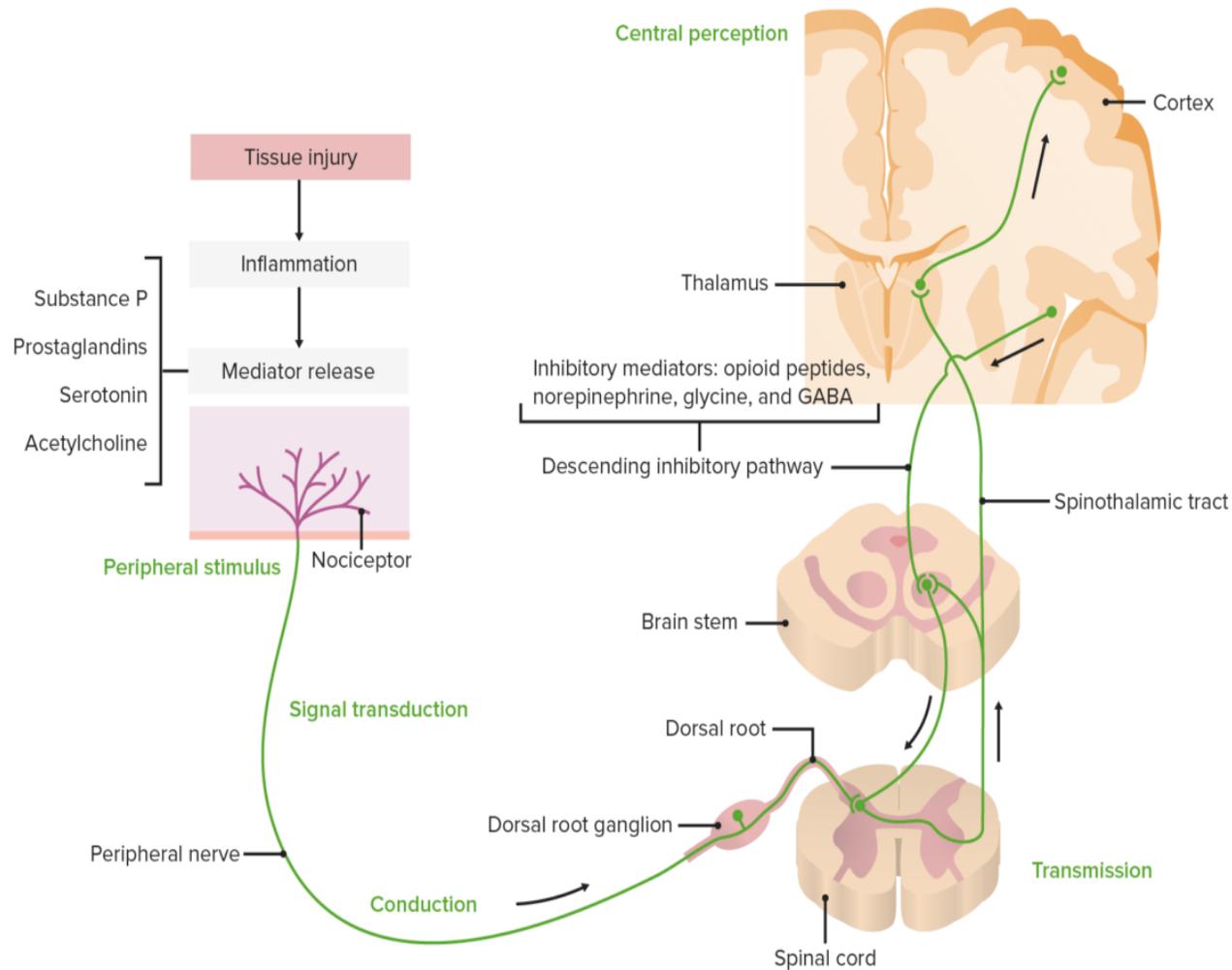
Good vs Bad Pain

- Eudynia: Useful and Protective
 - Refers to “the pain of an underlying pathological disorder, either an illness or an injury,” is said somehow even to promote healing and repair
- Maldynia: Maladaptive and Limiting
 - Characterized by the absence of detectable ongoing noxious stimulation, failure to promote healing and repair, and poor response to pharmaceutical treatment.

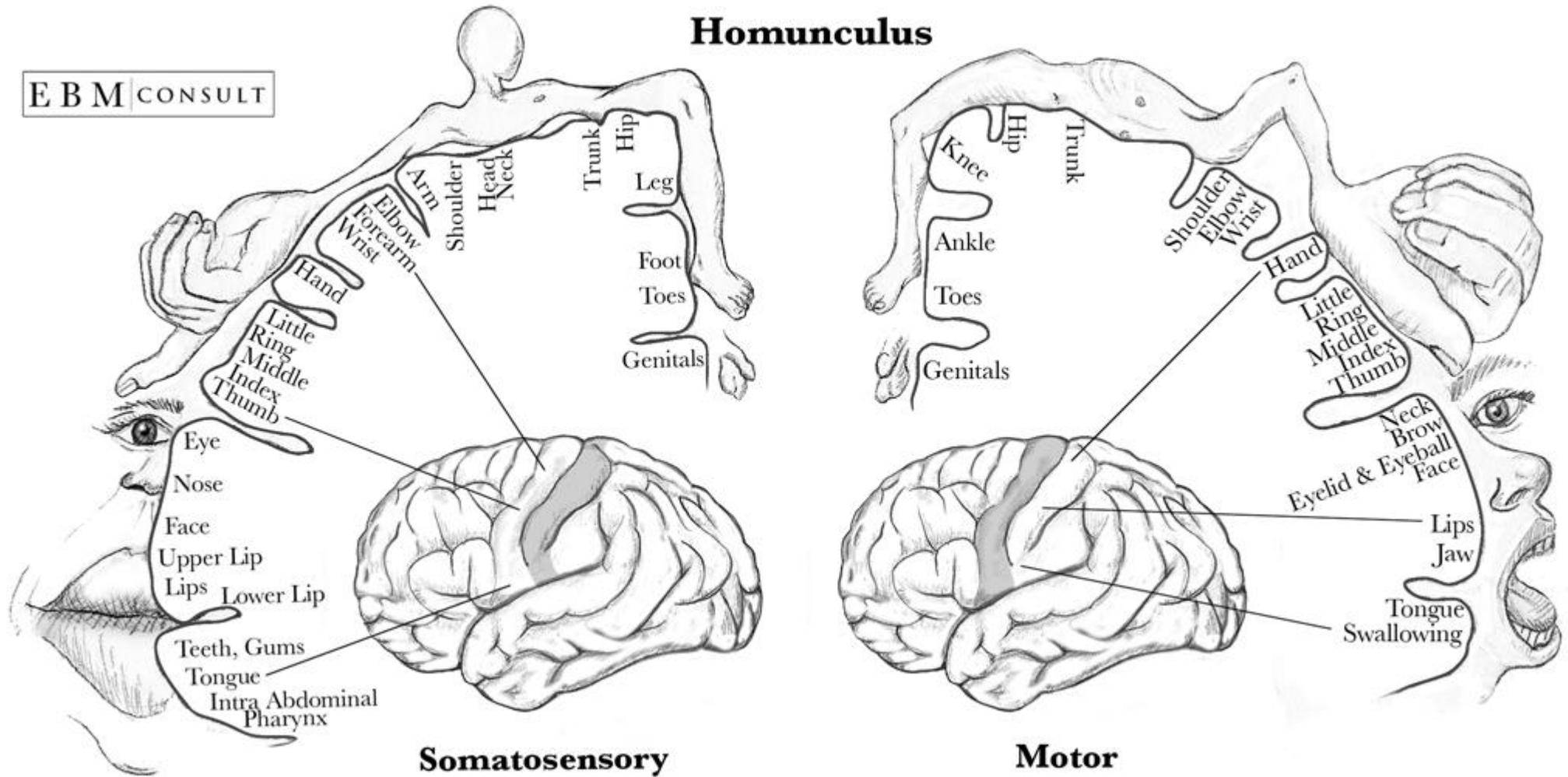
Impact on Function

- “People [experiencing pain] often report mood disturbances, including irritability, helplessness, and depression. More complex cognitive responses can also develop, such as loss of belief in the ability to perform tasks and fear avoidance. These in turn can result in loss of employment, breakdown of family relationships, and loss of community status

Anatomy of Pain Transmission

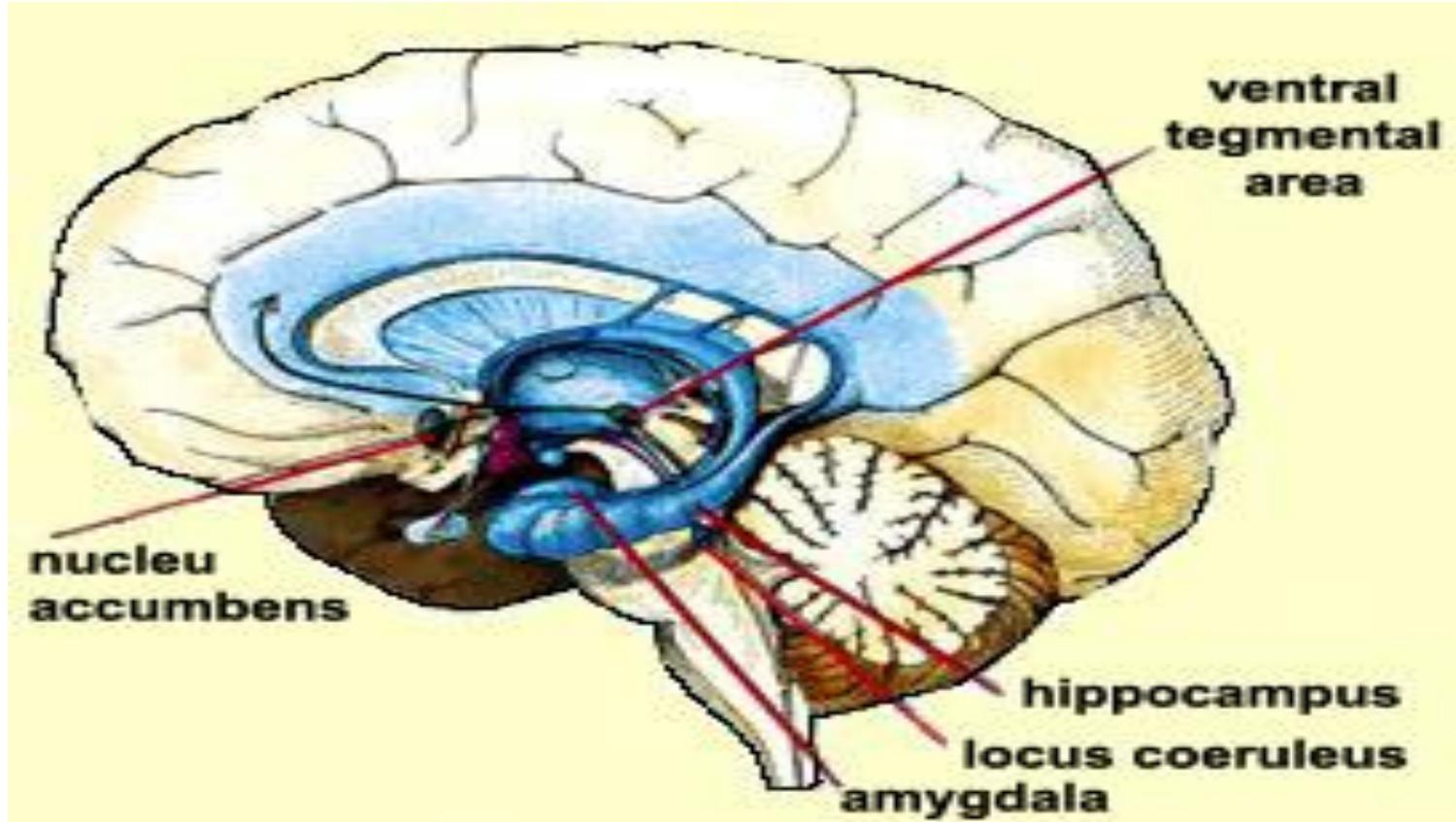


Anatomy of Pain Transmission



Dopamine

Nucleus Accumbens



Dopamine is a powerful neurotransmitter (highly rewarding) that largely influences behavior and decision making

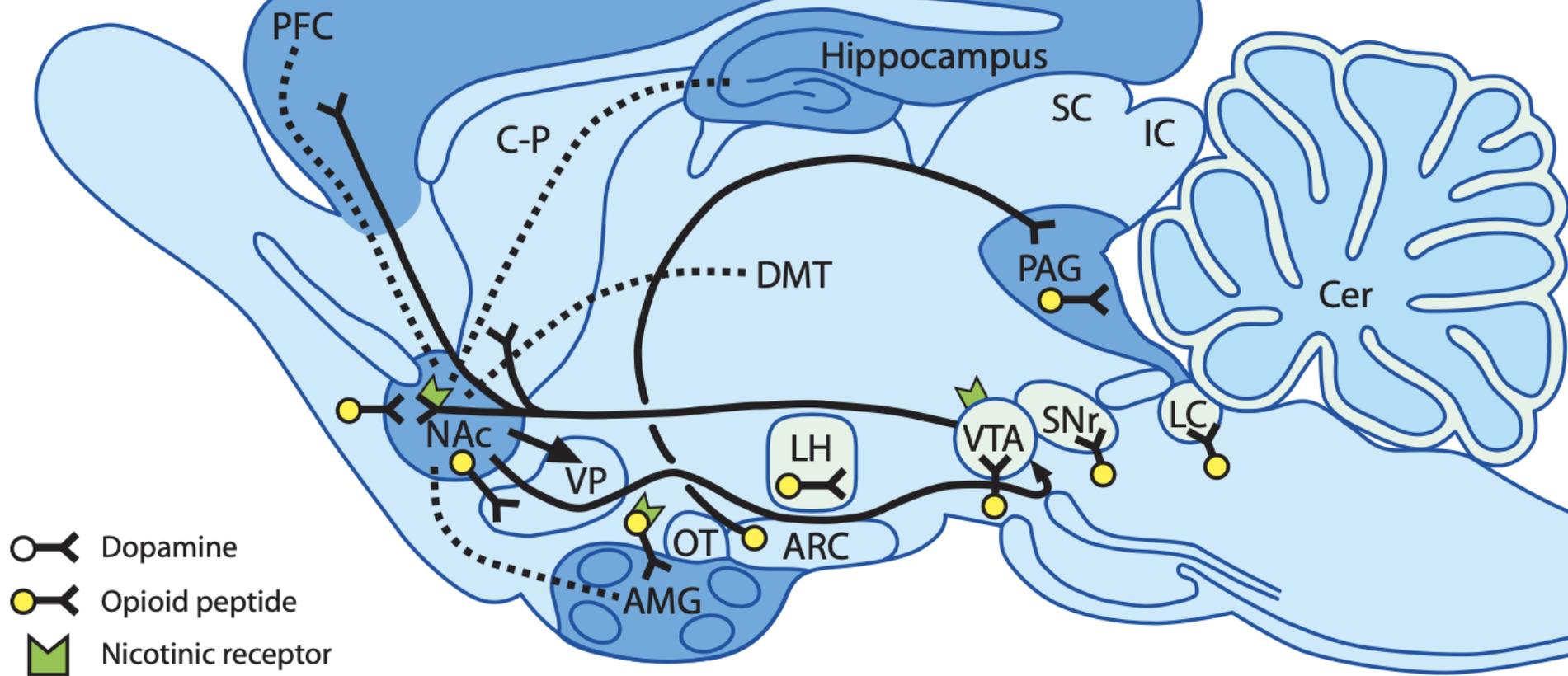
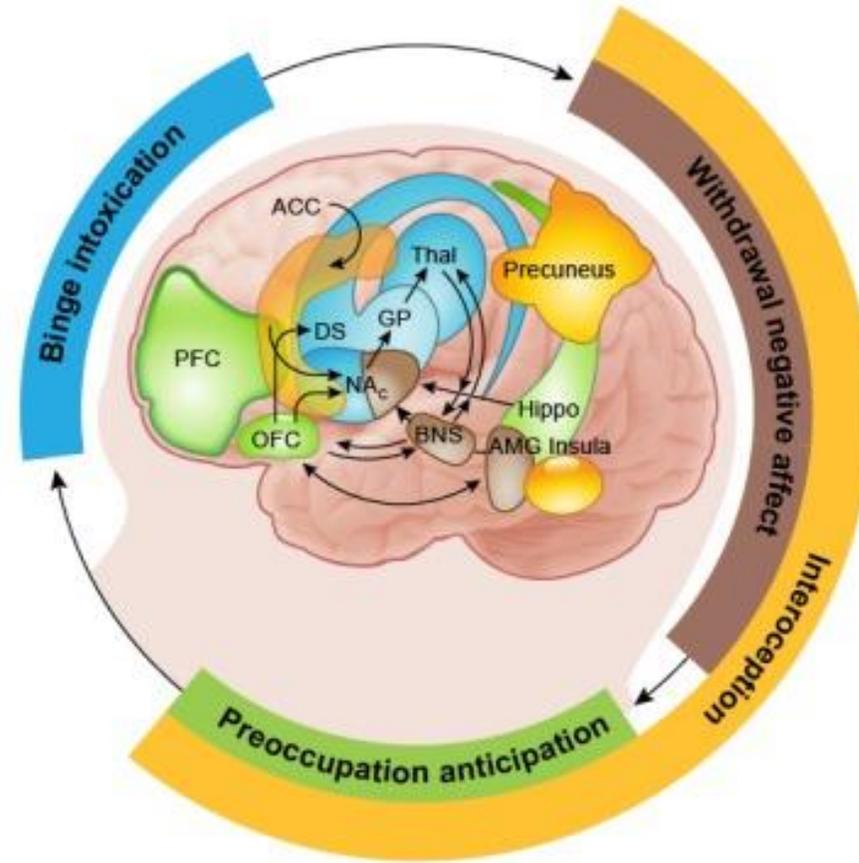


Fig. 5. Locations of opioid and abused medications site of action.
 Adapted from ref. 8

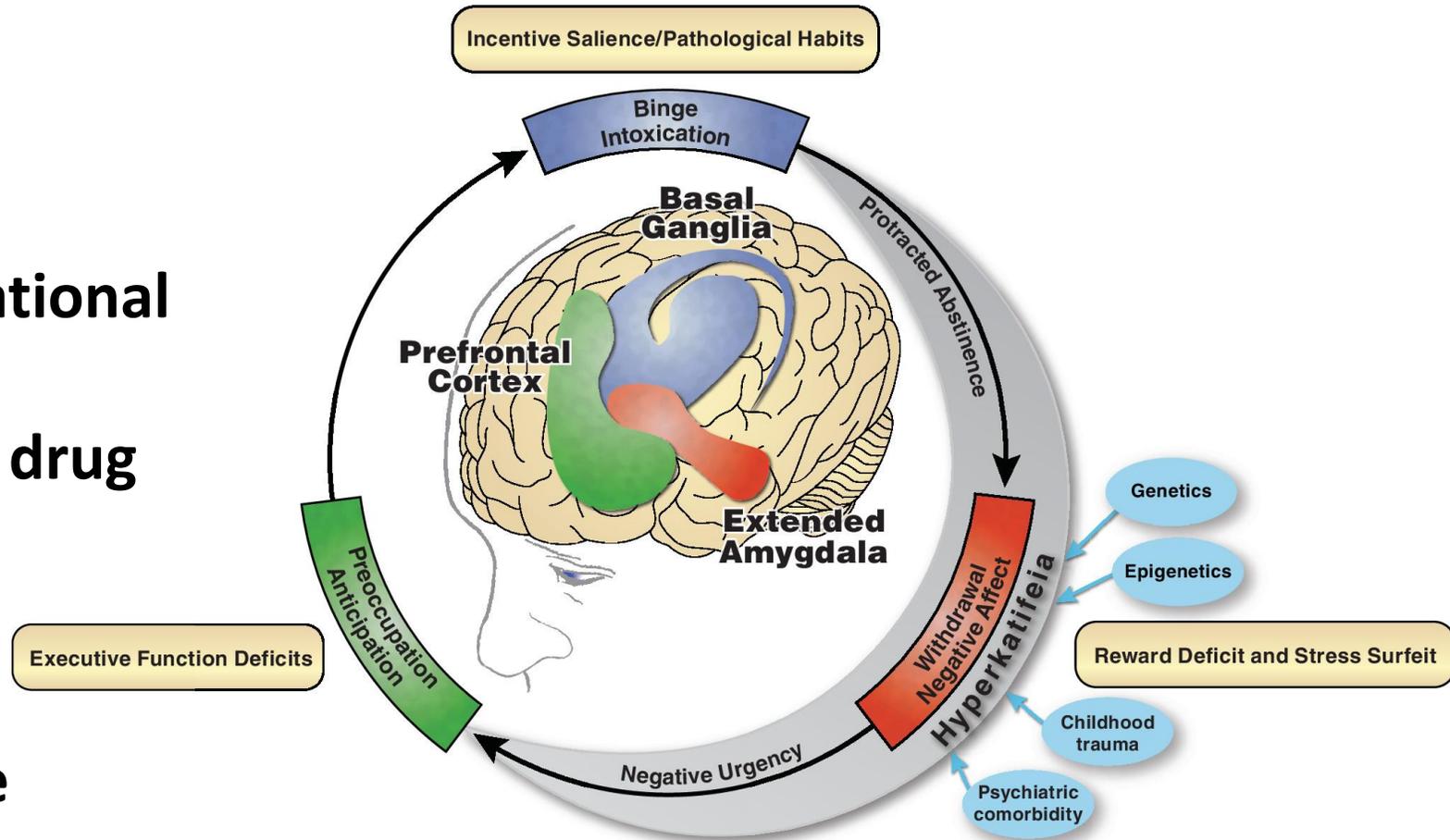
Key Regions

**Nucleus
Accumbens
VTA
Prefrontal Cortex
Hippocampus
Amygdala**



Neurobiology of Addiction

- Dysregulation of motivational circuits
- Exaggerated salience of drug incentive
- Deficit in reward
- Increase Stress
- Compromised Executive Function



Interrelated and Shared Regions

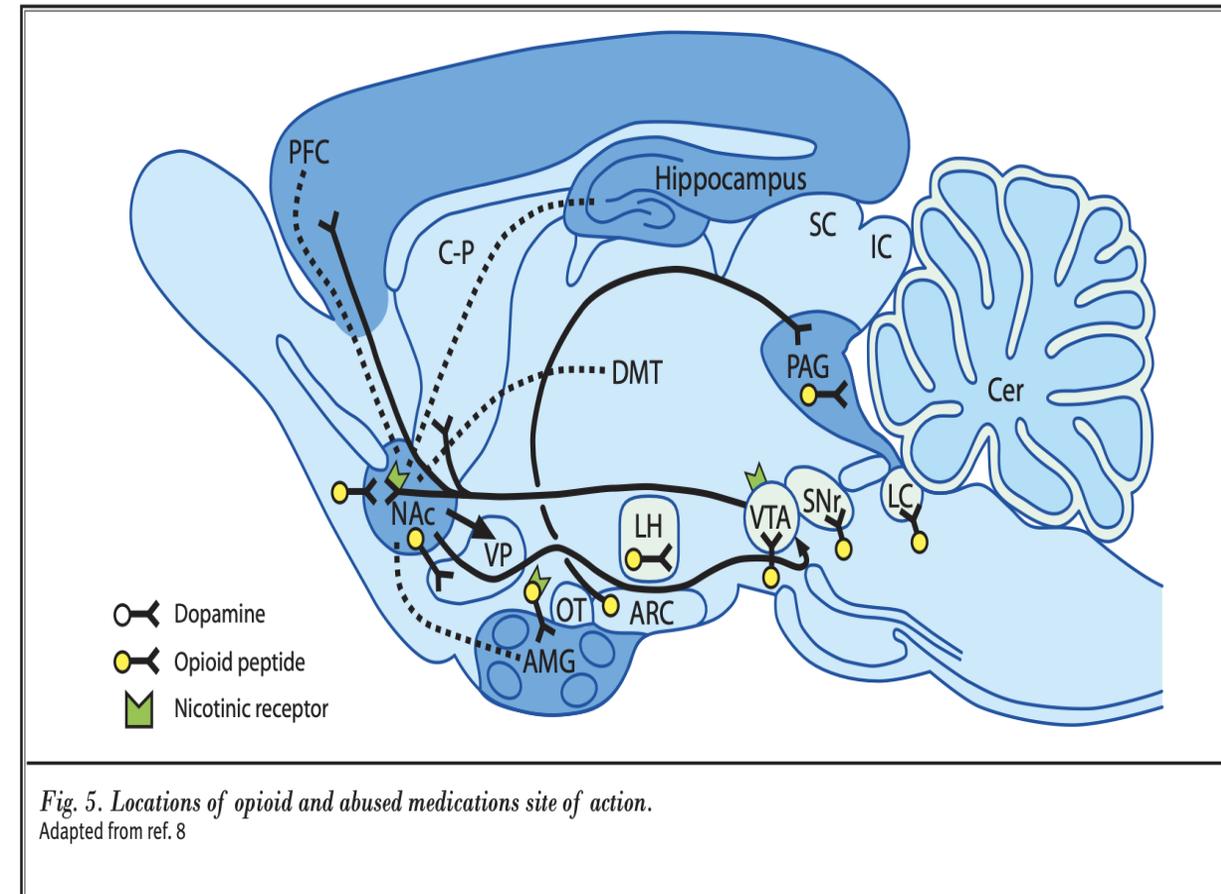
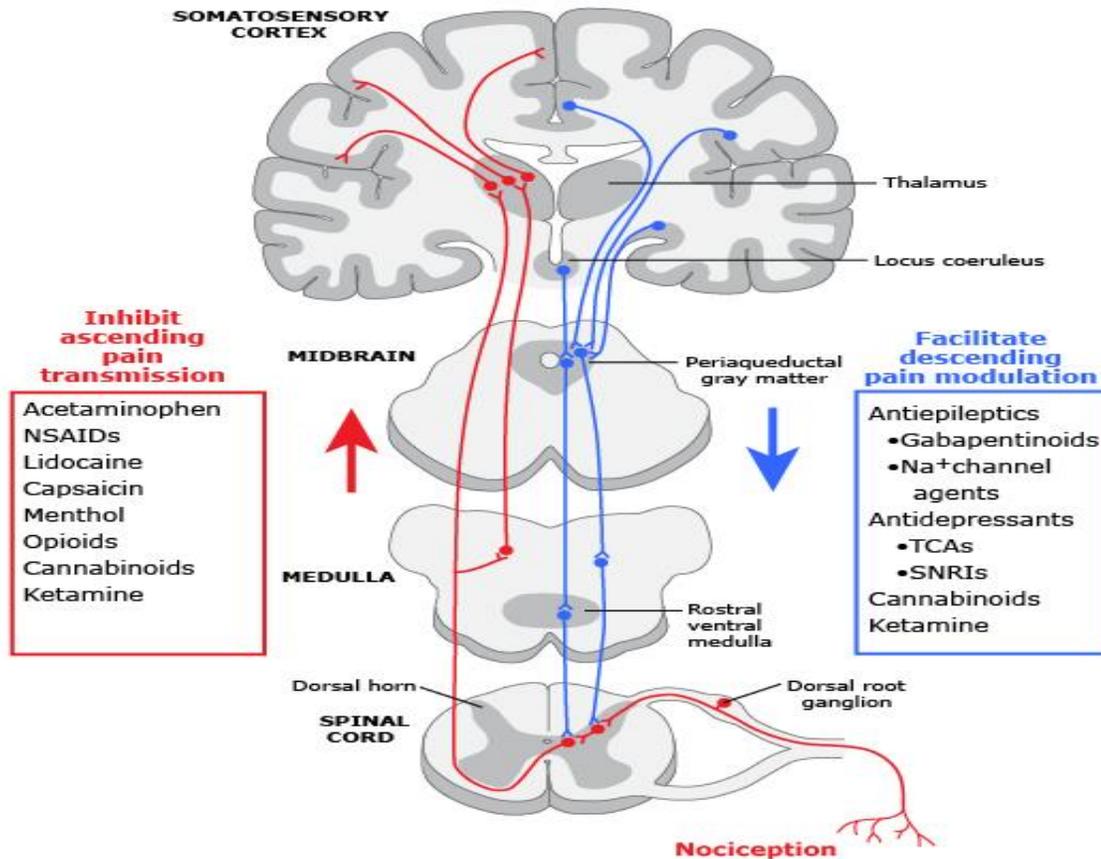


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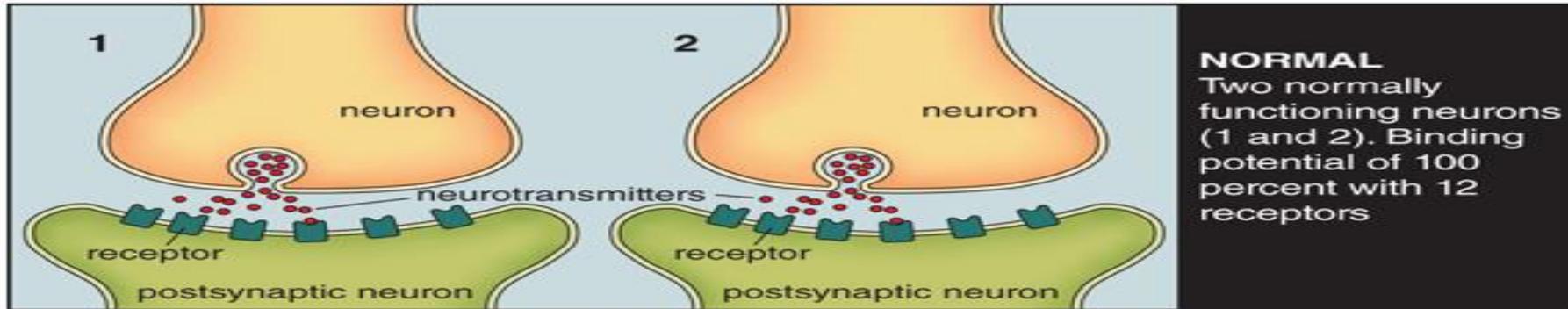
Vulnerable Population

- Patients with chronic pain are likely to be desperate for quick solutions
- Opioids often provide short term solutions but long term benefit is questionable
- Notion that they are two separate and distinct populations
- Need for systematic changes
- Biopsychosocial disease: Patient with Anxiety, OUD, Spinal Stenosis

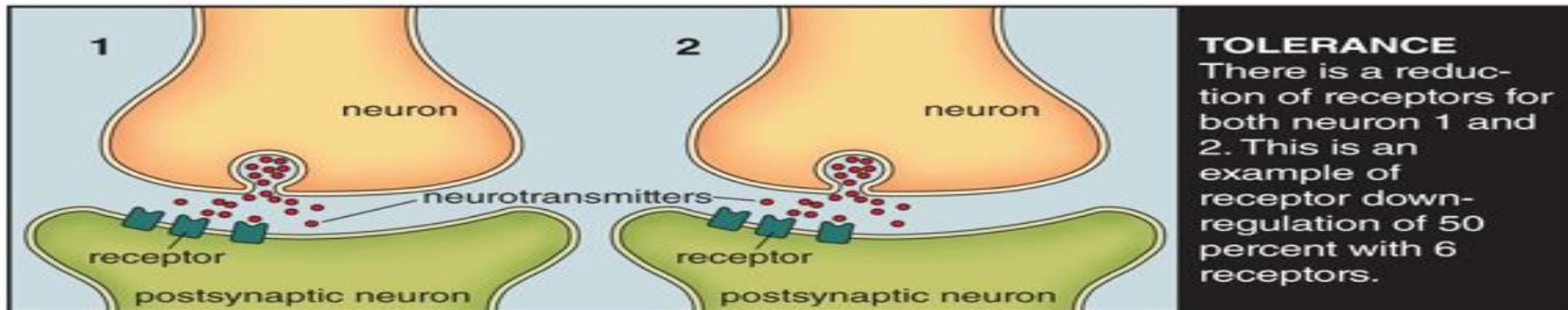
Vulnerable Population

- Data demonstrating large percentage of patients seeking treatment for SUD also have chronic pain diagnosis
- Anecdotally seen in my clinic

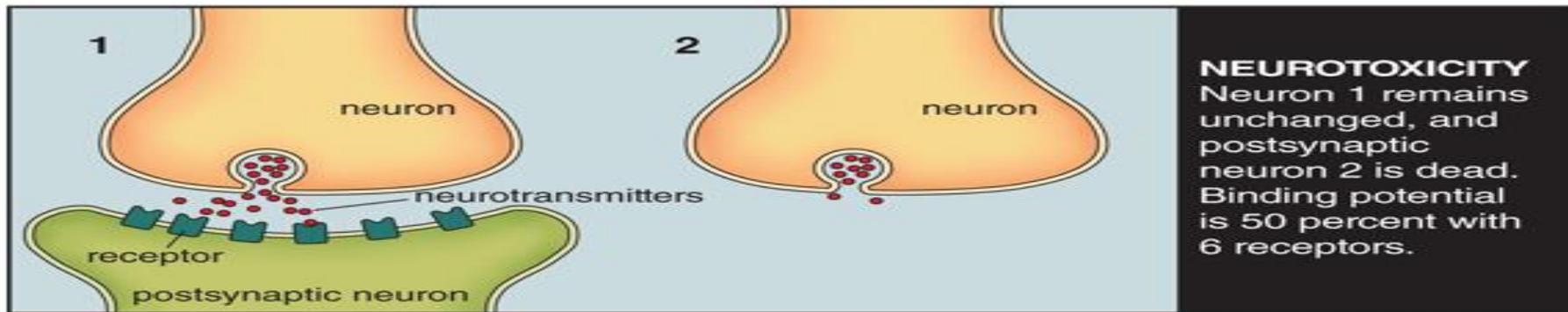
Tolerance



NORMAL
Two normally functioning neurons (1 and 2). Binding potential of 100 percent with 12 receptors



TOLERANCE
There is a reduction of receptors for both neuron 1 and 2. This is an example of receptor down-regulation of 50 percent with 6 receptors.



NEUROTOXICITY
Neuron 1 remains unchanged, and postsynaptic neuron 2 is dead. Binding potential is 50 percent with 6 receptors.

Approach to patient with Chronic pain and OUD

- Accurate Diagnosis of the pain generator
 - Treat pain as real
 - Don't dismiss as drug seeking
 - Work up as appropriate
- Select agents/treatment/medications to treat the type of pain the patient has (emphasis on non-pharmacologic)
 - Neuropathic/Neuroplastic
 - Nociceptive
 - Inflammatory
 - Surgical

Approach to patient with Chronic pain and OUD

- Treat comorbid depression and anxiety
 - Several medications double as both mood medications and are useful in chronic pain
 - Avoid long term benzo use
 - Involve psych, PCP, Family
- Address loss of function and life role associated with chronic pain
 - Add CBT
 - Pain mapping
 - Group therapy

Approach to patient with Chronic pain and OUD

- Complimentary and Alternative Treatment
 - Acupuncture
 - Osteopathic Manipulative Treatment
 - Chiropractic
 - Massage Therapy
 - Interventional procedures

Approach to patient with Chronic pain and OUD

- Buprenorphine and Methadone can be employed to treat both chronic pain and opioid use disorder
- Methadone
 - Effective pain medication also used to treat OUD
 - Need to obtain at OTP
 - QT prolongation and variable metabolism
 - Med interactions
 - May take long to reach stable dose
 - Viable option for many and should not be discounted

Approach to patient with Chronic pain and OUD

- Buprenorphine
 - Effective pain medication used to also treat OUD
 - Analgesic effect of 6-8 hours
 - TID and QID dosing for pain
 - Ceiling effect with respiratory depression
 - Safer when patient is using in conjunction with benzodiazepine
 - Protective and maintains tolerance
 - Is less Euphorogenic
 - Less risk Opioid induced hyperalgesia

Approach to patient with Chronic pain and OUD

- Avoid rapid tapers
 - Associated with increase incidence of Suicide and Overdose
 - Protracted withdrawal syndrome
 - Taper 10% of original dose per week.
 - May need to hold taper
- May need closer follow up during transition periods and tapers
 - Frame conversation around safety and utility
 - For acute pain there may be a role for full mu agonists

Approach to patient with Chronic pain and OUD

- Avoid being frugal
 - Withdrawal prevention
 - Craving prevention
 - Adequate pain control
- Counsel patient
 - Comprehensive approach
 - NSAIDs, Adjuvants medications, PT, CBT, Diet
 - Other medications help your opioids work better

References

- Cohen M, Quintner J, Buchanan D. Is chronic pain a disease? *Pain Med*. 2013 Sep;14(9):1284-8. doi: 10.1111/pme.12025. Epub 2013 Jan 7. PMID: 23294511.
- Demidenko MI, Dobscha SK, Morasco BJ, Meath THA, Ilgen MA, Lovejoy TI. Suicidal ideation and suicidal self-directed violence following clinician-initiated prescription opioid discontinuation among long-term opioid users. *Gen Hosp Psychiatry*. 2017 Jul;47:29-35. doi: 10.1016/j.genhosppsy.2017.04.011. Epub 2017 Apr 27. PMID: 28807135.
- Agnoli A, Xing G, Tancredi DJ, Magnan E, Jerant A, Fenton JJ. Association of Dose Tapering With Overdose or Mental Health Crisis Among Patients Prescribed Long-term Opioids. *JAMA*. 2021 Aug 3;326(5):411-419. doi: 10.1001/jama.2021.11013. Erratum in: *JAMA*. 2022 Feb 15;327(7):688. Erratum in: *JAMA*. 2022 Feb 15;327(7):687. PMID: 34342618; PMCID: PMC8335575.
- Sordo L, Barrio G, Bravo MJ, Indave BI, Degenhardt L, Wiessing L, Ferri M, Pastor-Barriuso R. Mortality risk during and after opioid substitution treatment: systematic review and meta-analysis of cohort studies. *BMJ*. 2017 Apr 26;357:j1550. doi: 10.1136/bmj.j1550. PMID: 28446428; PMCID: PMC5421454.

References

Davis MP, Pasternak G, Behm B. Treating Chronic Pain: An Overview of Clinical Studies Centered on the Buprenorphine Option. *Drugs*. 2018 Aug;78(12):1211-1228. doi: 10.1007/s40265-018-0953-z. PMID: 30051169; PMCID: PMC6822392.



Thank you!

Questions & Discussion