Assessing and Addressing Complex Pain

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MedNet21
Center for Continuing Medical Education

The Ohio State University Wexner Medical Center

Late night page…

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Patient JM complaining
10/10 pain, wants more IV
hydromorphone, not due yet.
Please advise -#####
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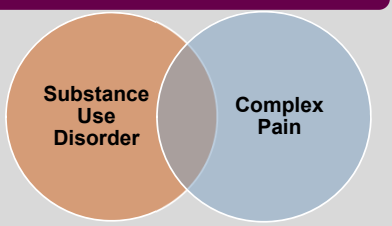
Learning objectives

1. Diagnose major components of complex pain
2. Identify appropriate treatments for complex pain
3. Distinguish complex pain from substance use disorder
4. Describe specific strategies for talking to patients about pain

Terminology faux-pas

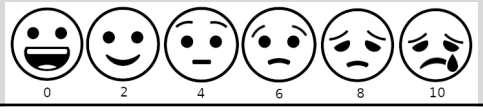
Chronic pain ≠ SUD



Appropriate language

YES		NO
Substance use disorder	vs	Opioid abuser Alcoholic Addict
Opioid	vs	Narcotic
"Risky medication"	vs	"Risky patient"

What is pain?



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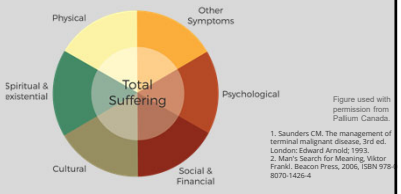
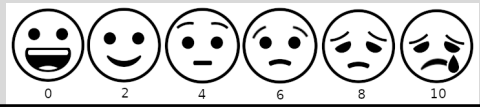


Figure used with permission from Pallium Canada.

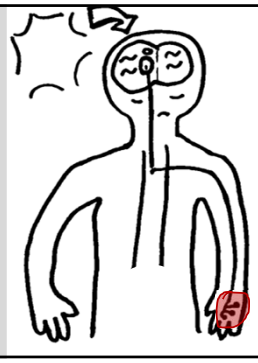
1. Saunders CM. The management of terminal malignant disease, 3rd ed. London: Edward Arnold; 1993.
2. Man's Search for Meaning, Viktor Frankl. Beacon Press, 2006, ISBN 978-8070-1426-4



Pain system

Pain system

Nociceptors

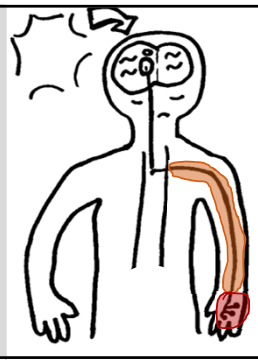


Pain system

Nociceptors
- Mechanical
- Chemical
- Temperature
- (Stretch)

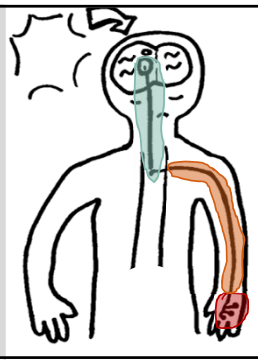
Pain system

Nociceptors
Peripheral nerve



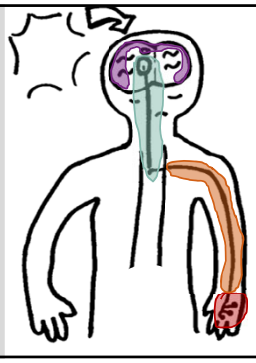
Pain system

Nociceptors
Peripheral nerve
Central Spinal Cord Processing



Pain system

- Nociceptors
- Peripheral nerve
- Central Spinal Cord Processing
- Supratentorial Input



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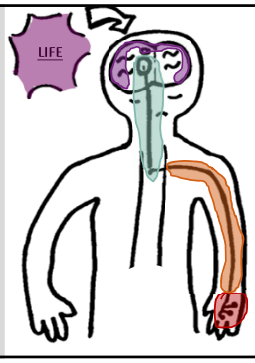
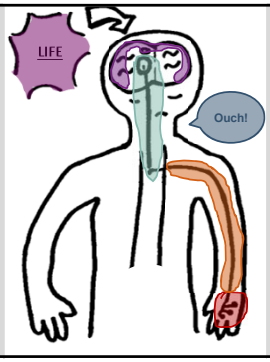


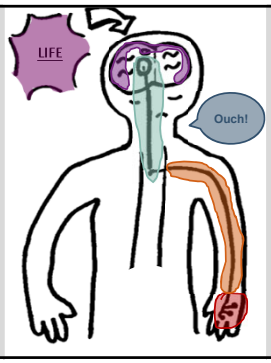
Pain system

- Nociceptors
- Peripheral nerve
- Central Spinal Cord Processing
- Supratentorial Input

- Conscious pain experience



Pain Types



Pain Types

Nociceptive pain
- "Normal" pain triggers
- Physiologic hyperalgesia

Pain Types

Nociceptive pain
- "Normal" pain triggers
- Physiologic hyperalgesia

Diagnosis – Somatic
- Well localized
- Sharp, aching, throbbing
- Usually worse with movement, better with rest
- Usually a clear clinical explanation

Pain Types

Nociceptive pain
- "Normal" pain triggers
- Physiologic hyperalgesia

Diagnosis - Visceral
- Injury to soft tissues or viscera of internal organs
- Poorly localized
- Stretching, squeezing, cramping, dull, colic, aching (deep)
- Hard to describe

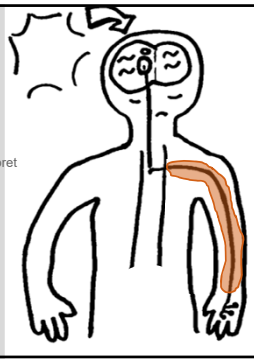
Pain Types

Nociceptive pain
- "Normal" pain triggers
- Physiologic hyperalgesia

Treatments
- NSAIDs
- Steroids (dexamethasone)
- Lidocaine
- Opioids

Pain Types

Peripheral Nerve Pain
- Axonal damage
- Erratic or absent APs
- CNS does its best to interpret



Pain Types

Peripheral Nerve Pain
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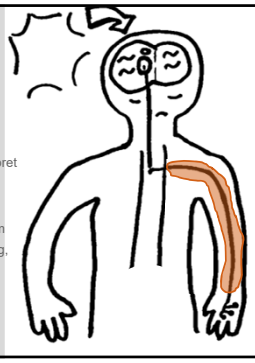
- CNS does its best to interpret

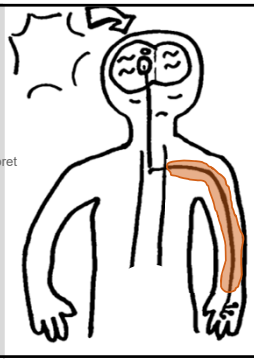
Diagnosis
- Damage to nervous system
- Burning, shooting, stabbing, electrical, numbness



Pain Types

Peripheral Nerve Pain
- Axonal damage
- Erratic or absent APs
- CNS does its best to interpret

Treatments
- SNRI
- TCAs
- Gabapentin/pregabalin
- Capsaicin/menthol
- Systemic lidocaine
- Opioids



Pain Types

Central Nerve Pain
- Dysregulation of ascending and descending signals
- Altered receptor expression
- Central hyperalgesia

Pain Types

Central Nerve Pain

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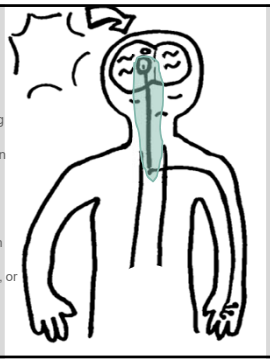
- Central hyperalgesia

Diagnosis

- Typically have chronic pain history
- Vaguely described, diffuse, or migratory pain
- Does not respond for long when opioids increased



Central hyperalgesia

Figure adapted from Pergolizzi et al 2010 with modifications.

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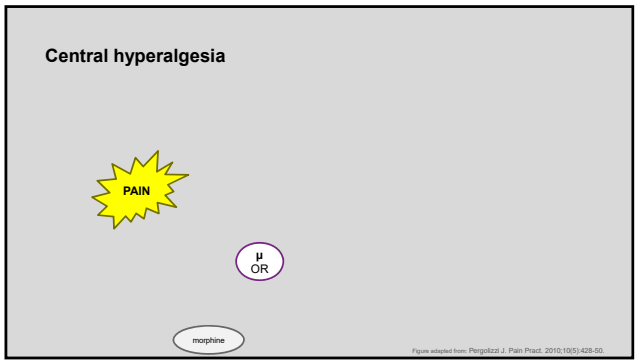
Central hyperalgesia
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μ
OR
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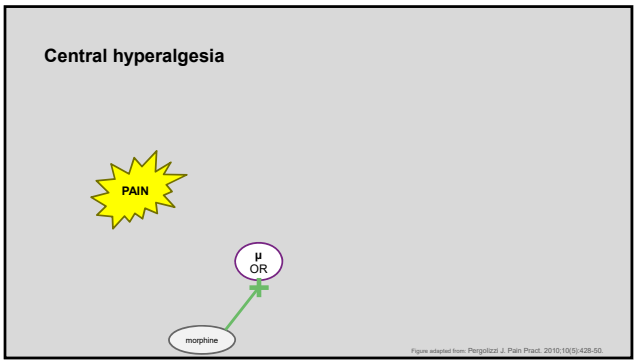
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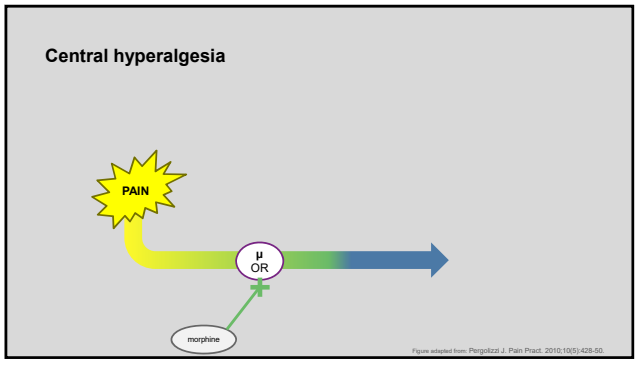
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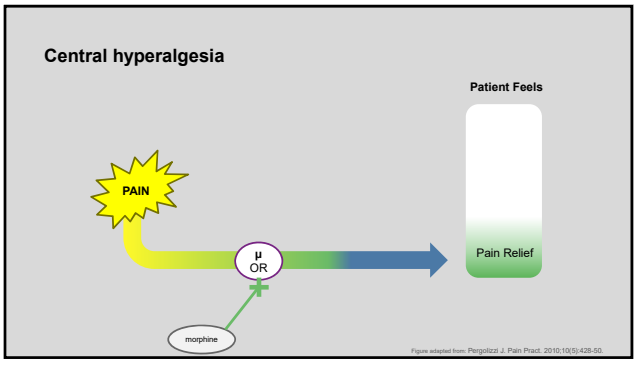
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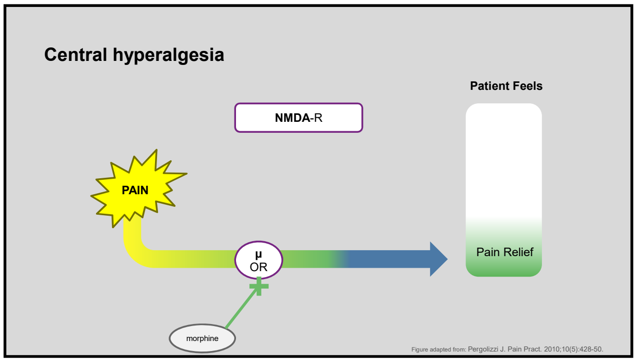
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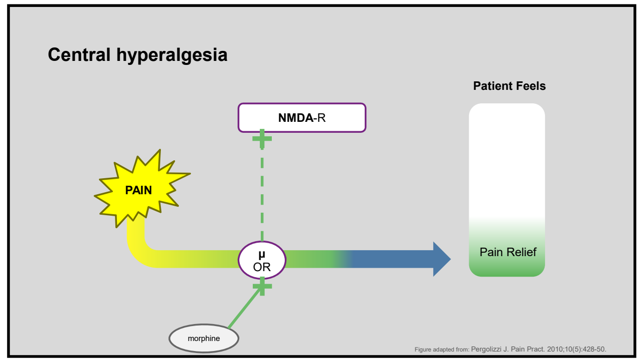
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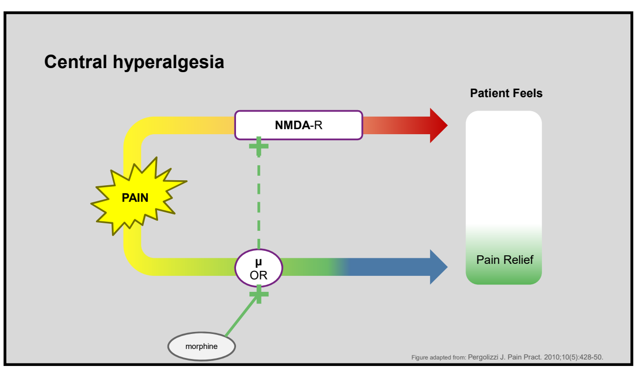
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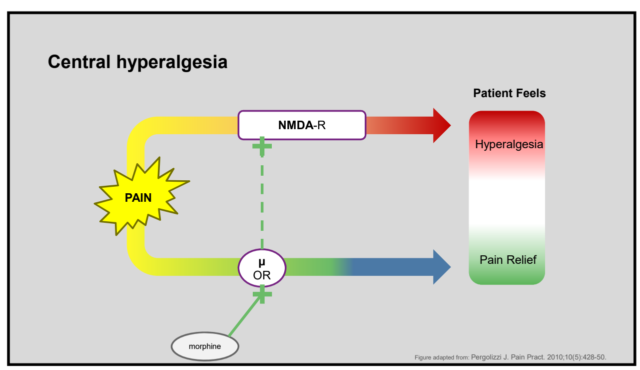
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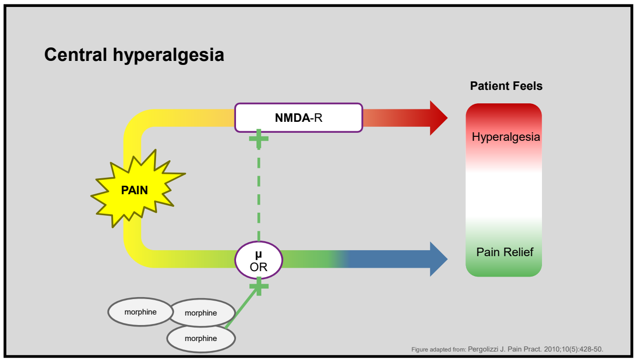
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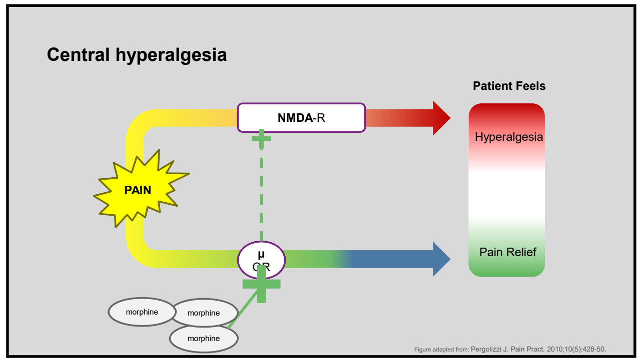
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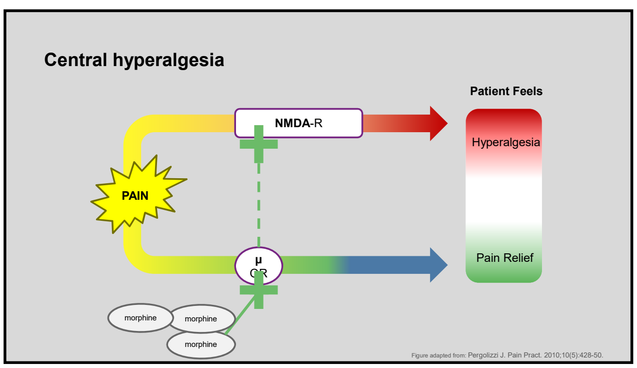
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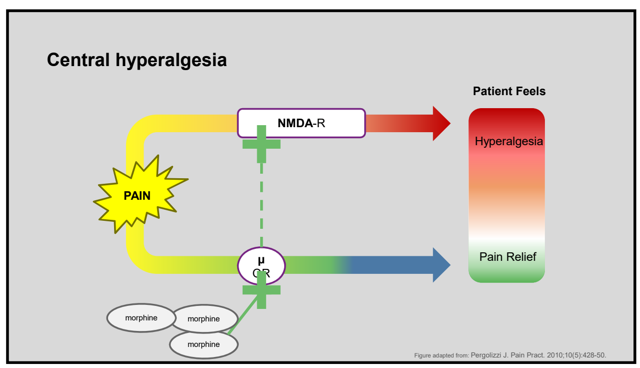
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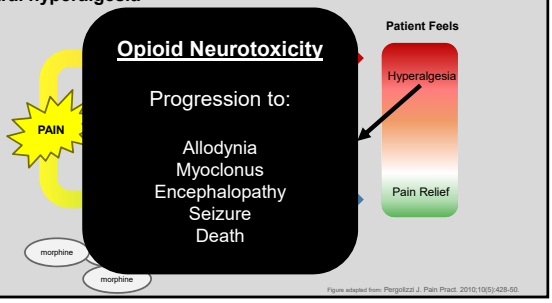

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Opioid neurotoxicity

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- History findings

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- Physical exam findings
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  - Myoclonic jerks
  - Drowsiness

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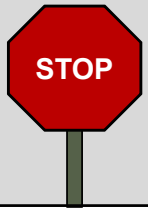

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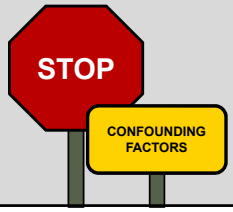
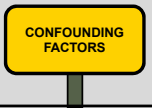
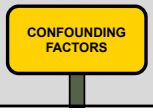


Confounding factors



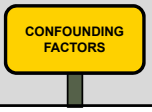
Confounding factors

- Another cause of increased pain



Confounding factors

- Another cause of increased pain
  - Acute medical condition
  - Disease progression



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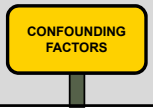
- Gabapentin toxicity



Confounding factors

- Another cause of increased pain
  - Acute medical condition
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- Gabapentin toxicity
- Reduced medication clearance

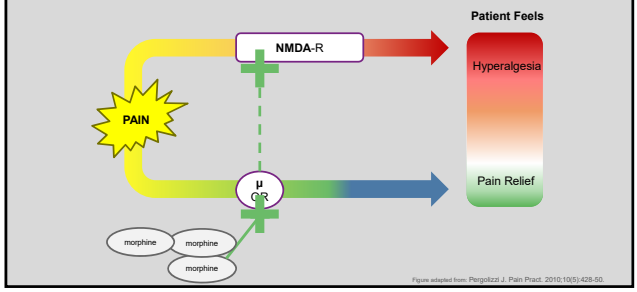
CONFOUNDING FACTORS

Confounding factors

- Another cause of increased pain
  - Acute medical condition
  - Disease progression
- Gabapentin toxicity
- Reduced medication clearance
- Existential distress

CONFOUNDING FACTORS

Treating opioid hyperalgesia



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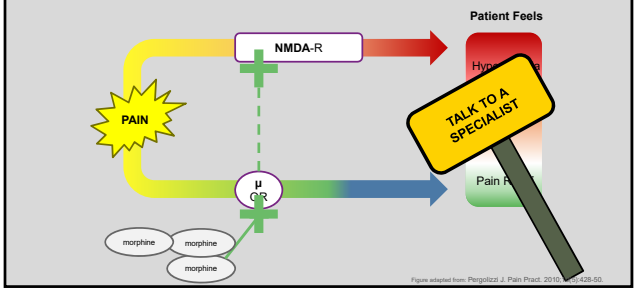

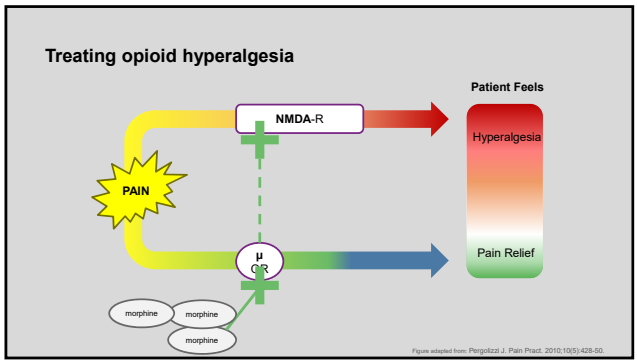
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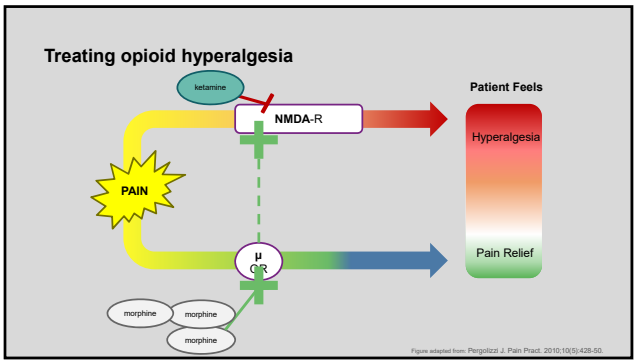
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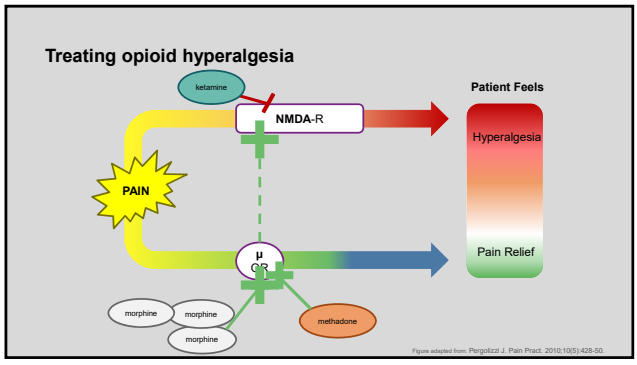
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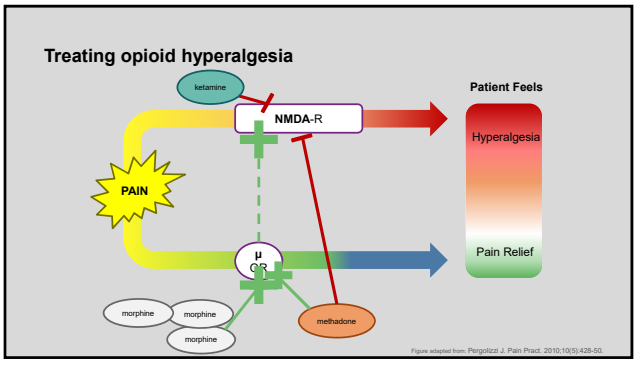
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- Dysregulation of ascending and descending signals
- Altered receptor expression
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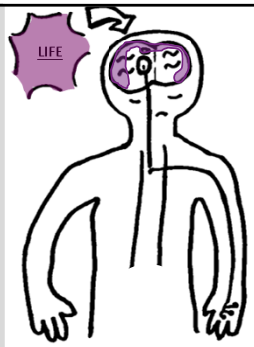
Treatments

- SNRI
- TCA
- Gabapentin/pregabalin
- Ketamine
- Methadone
- Buprenorphine

How does it break?

Existential pain

- Attention matters
- Prior experiences matter
- Mood matters
- Coping matters



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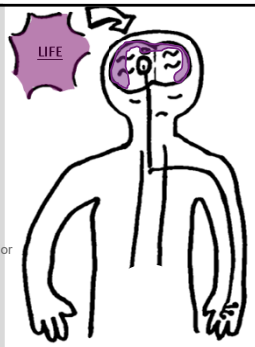
Diagnosis

- Grief, anxiety, depression, or trauma amplify pain experience
- Anxiolysis sometimes reduces pain



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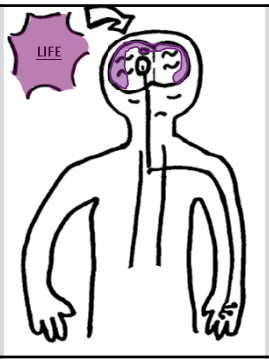
Treatments
- Address the underlying problem
- CBT



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It is sometimes via the rewards system
(not central spinal cord receptors)

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Yes, BUT...

It is sometimes via the rewards system
(not central spinal cord receptors)

and when this happens,
opioids have high risk of harm.

Spectrum of pain relief from opioids

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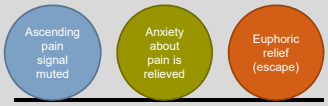
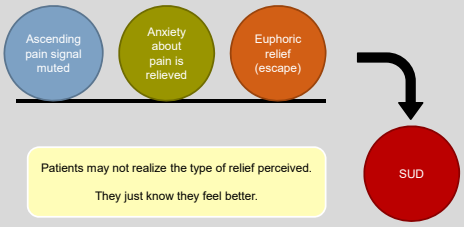


Spectrum of pain relief from opioids

Patients may not realize the type of relief perceived.

They just know they feel better.

Spectrum of pain relief from opioids



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Harm in treating pain with opioid euphoria

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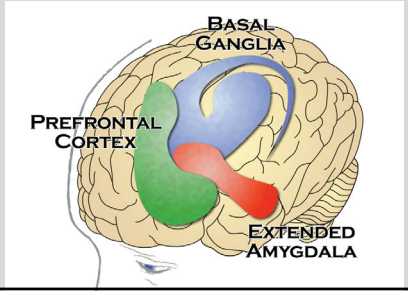
Harm in treating pain with opioid euphoria

1) Rapid tolerance to opioid euphoria effects
2) Increased risk of neurotoxicity
3) Underlying causes not addressed properly
4) Increased risk of developing SUD

What is substance use disorder?

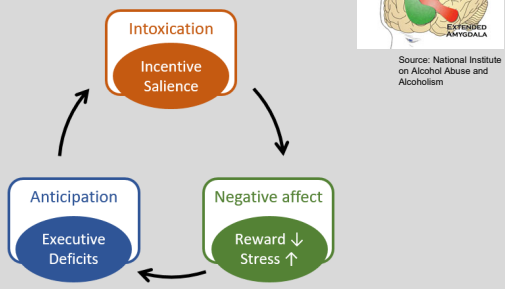
- 11 criteria in DSM V
  - Impaired control
  - Social impairment
  - Risky use
  - Pharmacologic
- Degrees of severity
  - Mild = 2-3 criteria
  - Moderate = 4-5 criteria
  - Severe = 6+ criteria

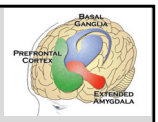
Brain Changes in SUD



Source: National Institute on Alcohol Abuse and Alcoholism

The SUD Cycle





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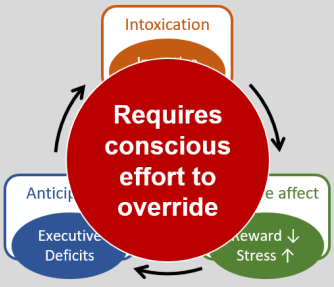
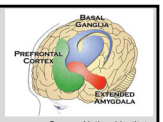


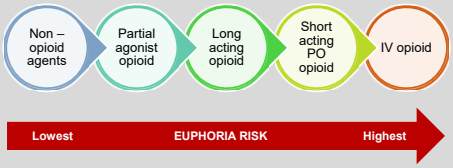


Source: National Institute on Alcohol Abuse and Alcoholism

SUD management principles

- Break the cycle of cravings and use
- Avoid triggers
- Improve impulse control
- Develop positive coping mechanisms

Reducing euphoria risk



Opioids have risks, BUT…

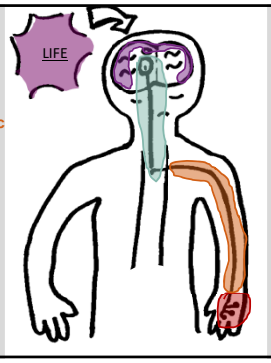
Balancing risks and benefits of opioids

Late night page…

```
Patient JM complaining
10/10 pain, wants more IV
hydromorphone, not due yet.
Please advise -#####
```

Pain Types

- Nociceptive
- Peripheral neuropathic
- Central neuropathic
- Existential



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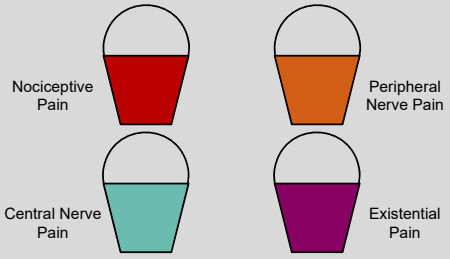
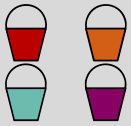


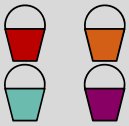
Diagnostic clues



Nociceptive Pain

- History, exam, diagnostics

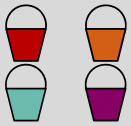
Diagnostic clues



Nociceptive Pain
- History, exam, diagnostics

Peripheral nerve pain
- Pain features
- Clinical assessment

Diagnostic clues



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Central pain syndrome
- Clinical suspicion
- Escalating medication with worsening pain
- Signs of opioid toxicity on exam

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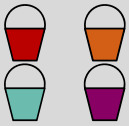

Nociceptive Pain
- History, exam, diagnostics

Peripheral nerve pain
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Central pain syndrome
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Existential pain
- Escalating medication without relief
- Instantaneous relief (<5 min) from IV opioid
- Pain relief with anxiolysis

DDx for additional IV opioid request

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- New painful condition developing

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- **Dose failure**

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DDx for additional IV opioid request

- New painful condition developing
- **Dose failure**
  - **PO opioid is under dosed compared to IV**
  - **Total dose is insufficient**
- Fear of uncontrolled pain
- Pain type not (or only partially) opioid responsive
- Willful manipulation due to SUD

Communication tips

- Sit down
- Take a thorough pain history
- Maintain neutral (non-judgmental) tone
- Screen for mood/anxiety disorders
- Screen for overall patient wellbeing
- Start with what you are going to do, not with what's going to stop or not be done
- Communicate with your colleagues!

Takeaways

- Managing complex pain requires careful attention
- Multimodal treatment plans are essential
- Substance use disorder is distinct from complex pain
- Opioids play an important role in certain pain syndromes

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