

Why Are We Still Using Opioids If Opioid Therapy Are So Problematic?

Jianren Mao, MD, PhD

Richard J. Kitz Professor of Anesthesia Research
Harvard Medical School, Harvard University

Vice Chair for Research
Chief, Division of Pain Medicine
Director, MGH Center for Translational Pain Research
Department of Anesthesia, Critical Care and Pain Medicine
Massachusetts General Hospital



Disclosure of Conflict of Interest

None

CONTENTS

Is opioid effective in long-term use?

Can opioid exacerbate pain?

Why are we still using opioids?

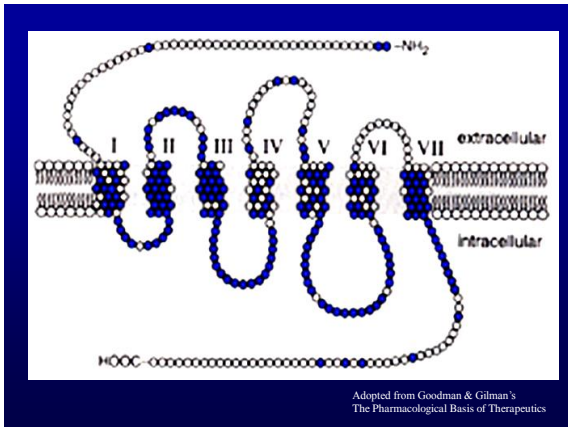
How can we improve opioid therapy?

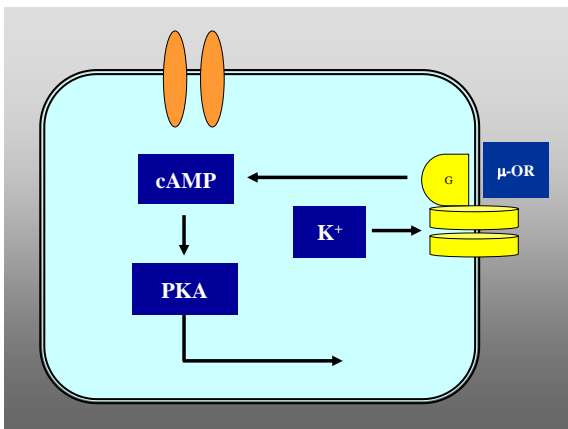
OPIOID RECEPTORS

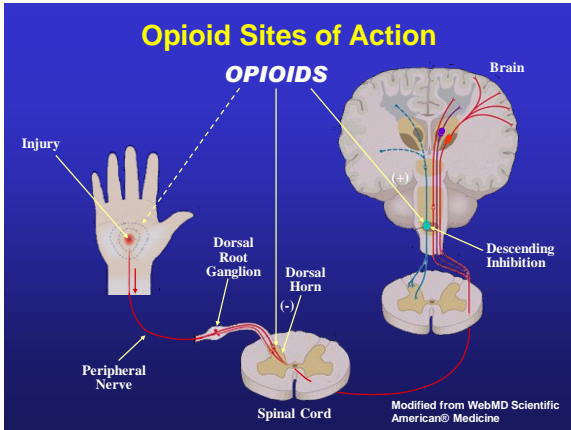
Three opioid receptor classes

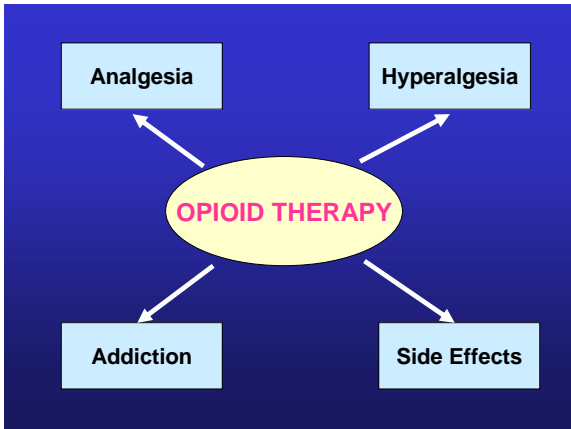
- Mu: β -endorphin; morphine
- Kappa: dynorphin; butorphanol
- Delta: enkephalin; its derivatives

- Each class of opioid receptors has been cloned





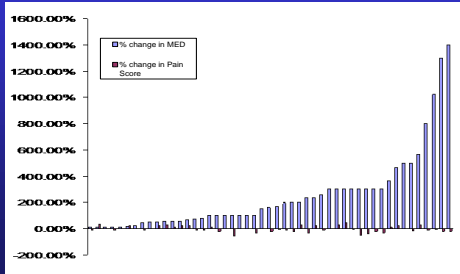




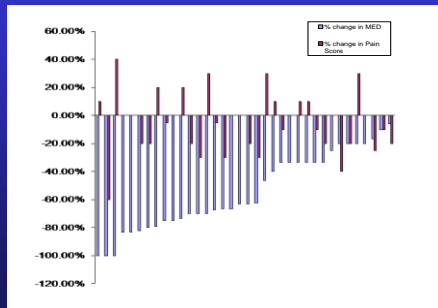
Does opioid dose adjustment change clinical pain score?

An analysis of a subgroup of over 100 chronic pain patients

Opioid Dose Increase and Pain Score Change



Opioid Dose Decrease and Pain Score



TOLARANCE

- Pharmacological effect characteristic of opioids
- Tolerance to various opioid effects occurs at differential rates
- Change in the pain state (disease progression, infection) mimicking tolerance

PHYSICAL DEPENDENCE

- Pharmacological effect characteristic of opioids
- Withdrawal or abstinence syndrome related to
 - abrupt discontinuation of medication
 - substantial dosage reduction
 - administration of antagonist

ADDICTION

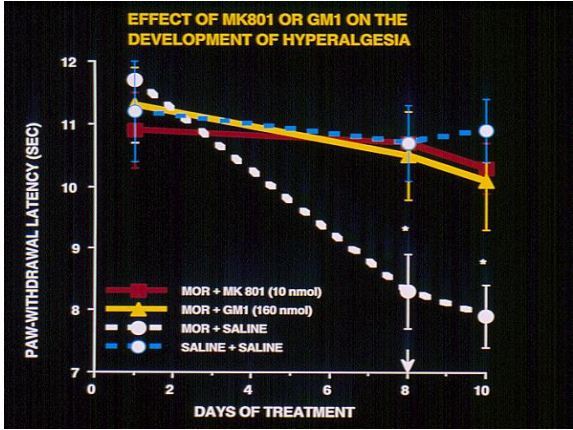
Psychiatric disorder

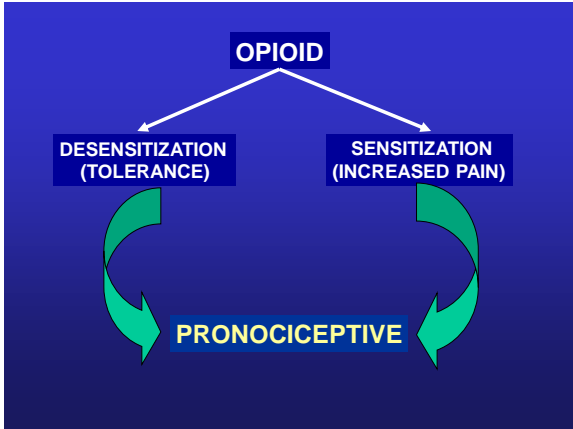
Cravings and compulsive behaviors

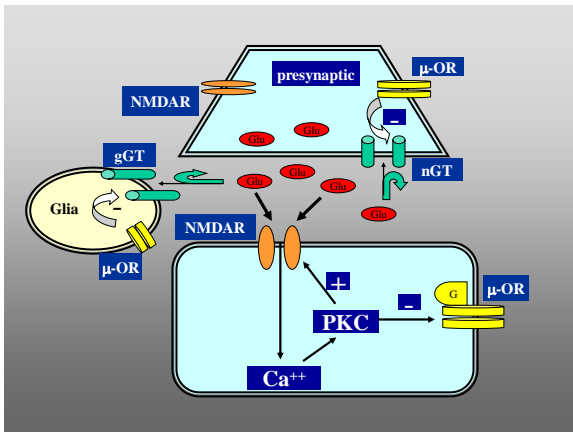
Physical, psychological, or social harm

Continued drug use despite harm

Opioid-Induced Hyperalgesia







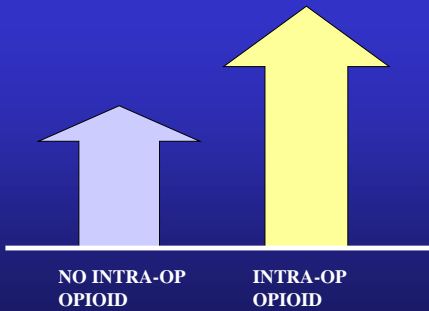
REPEATED OPIOID EXPOSURE



A PATHOLOGICAL PAIN STATE

DECREASED ANALGESIC EFFICACY

POST-OP OPIOID USE

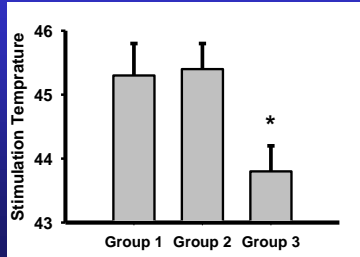


Cooper et al., 1997; Vinik & Igor, 1998; Guignard et al., 2000

Quantitative Sensory Testing



Altered Heat Pain Threshold



Chronic Pain Management



Reset pain threshold
(analgesic vs. antihyperalgesia)



Retain the ability to feel pain
but not constantly in pain

New additions to various categories of pain medications

Opioid analgesics

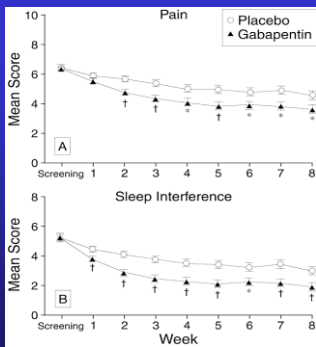
NSAIDs; COX-2 inhibitors

Ion channel (Ca⁺⁺, Na⁺) blockers

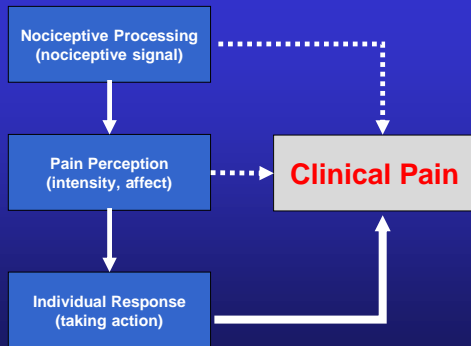
Antidepressants (TCA, SSRI, SNRI)

*Triptan drugs (5-HT_{1b}, 1d receptor agonists) for migraine

*Others (gabapentin, pregabalin)



Backonja, M. et al. JAMA 1998;280:1831-1836 JAMA



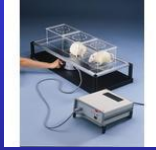
RELEVANCE: rat ≠ human

- No complaint (affect, emotion)
- No secondary gain
- No comorbidity
- No addiction
- No legal issues
- No illicit drug abuse
- No socioeconomic challenge

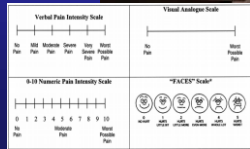


PAIN ASSESSMENT TOOL

Bench
Evoked response



Clinical
Pain rating
Pain questionnaires
Quantitative sensory testing



WHAT DOES PAIN SCORE TELL US?



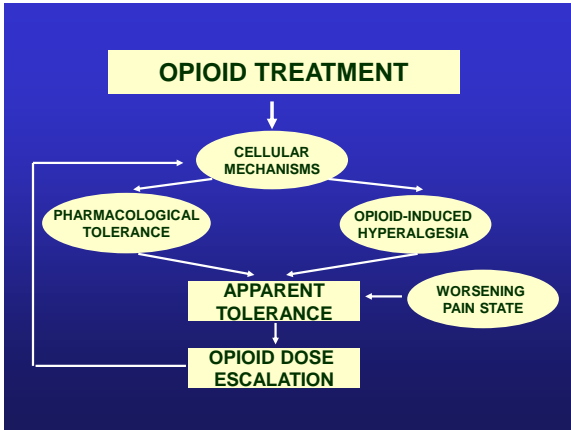
VAS:
10/10

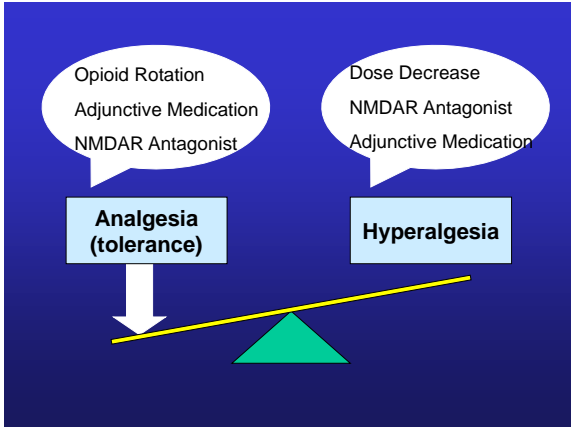


VAS:
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Why are we still using
opioid (for chronic pain
management)?

No Better Choice!





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