

Chronic Pain and Alcohol Use Disorder

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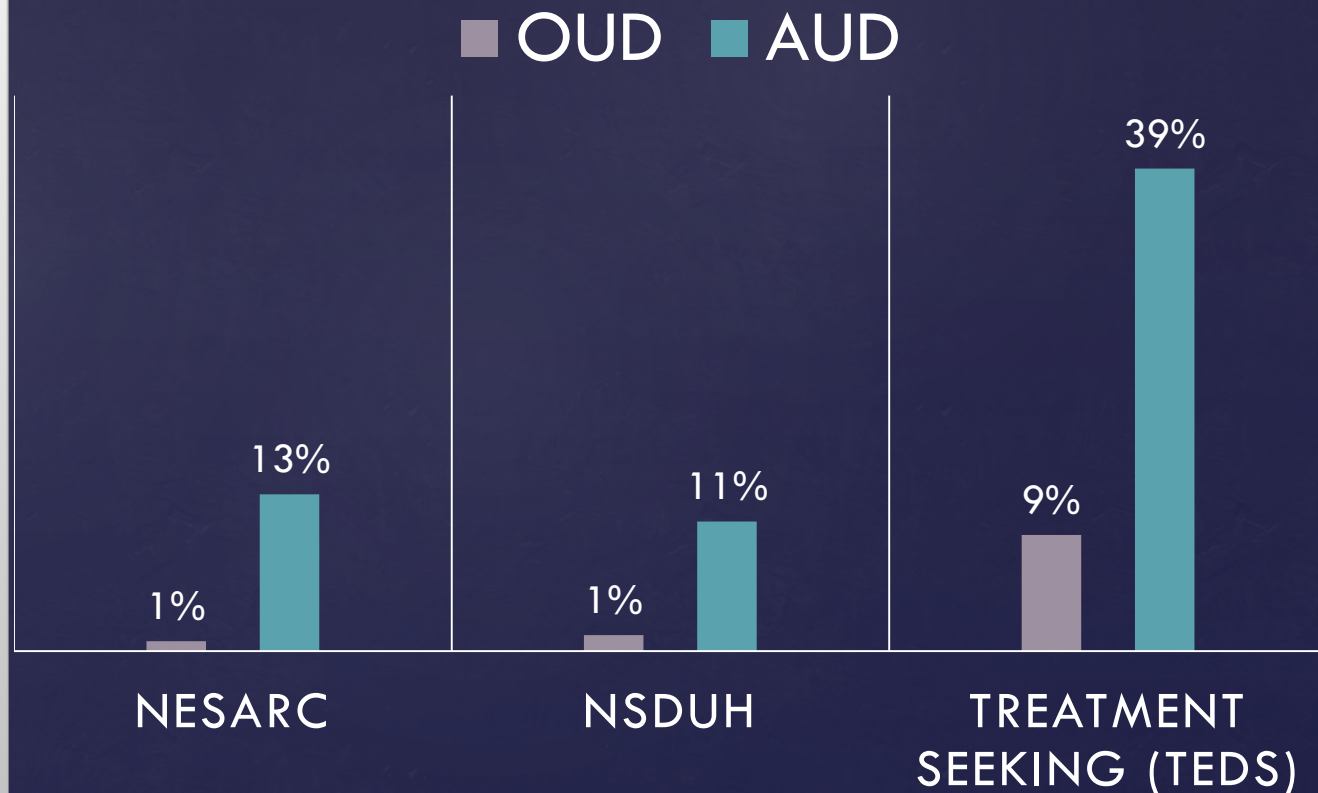
Research Support and Disclosures

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- No other conflicts related to this work
- Acknowledge my collaborators on this work, particularly Kevin Vowles, Tessa Frohe, Victoria Votaw, Karly Edwards, Megan Kirouac, Stephen Maisto, and Elizabeth McCallion



Kevin Vowles, PhD
Queen's University, Belfast

Alcohol is a leading cause of morbidity and preventable mortality



Alcohol has long been used as an analgesic



Alcohol use, negative affect, and pain are inherently linked via overlapping neural substrates

C'mon, let's drink till we can't feel feelings anymore

Neuroscience and Biobehavioral Reviews 36 (2012) 217



Contents lists available at SciVerse ScienceDirect

Neuroscience and Biobehavioral

journal homepage: www.elsevier.com/locate/

Review

Alcohol dependence as a chronic pain disorder

Mark Egli^{a,*}, George F. Koob^b, Scott Edwards^b

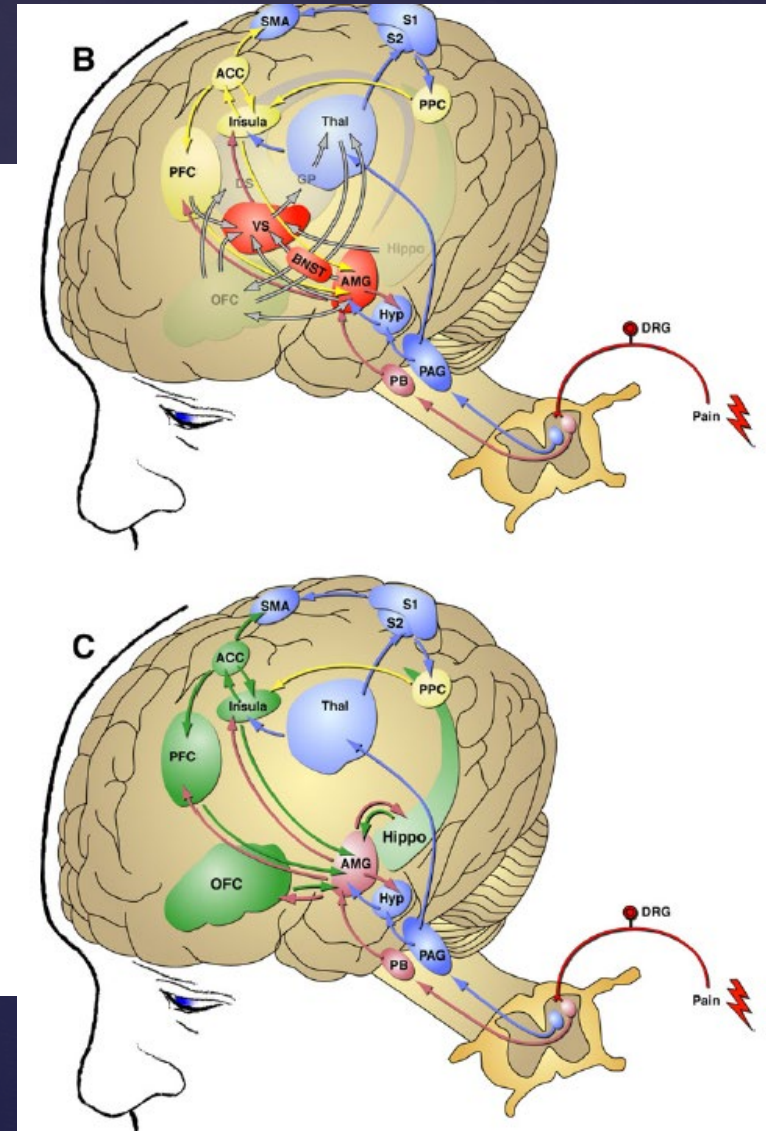
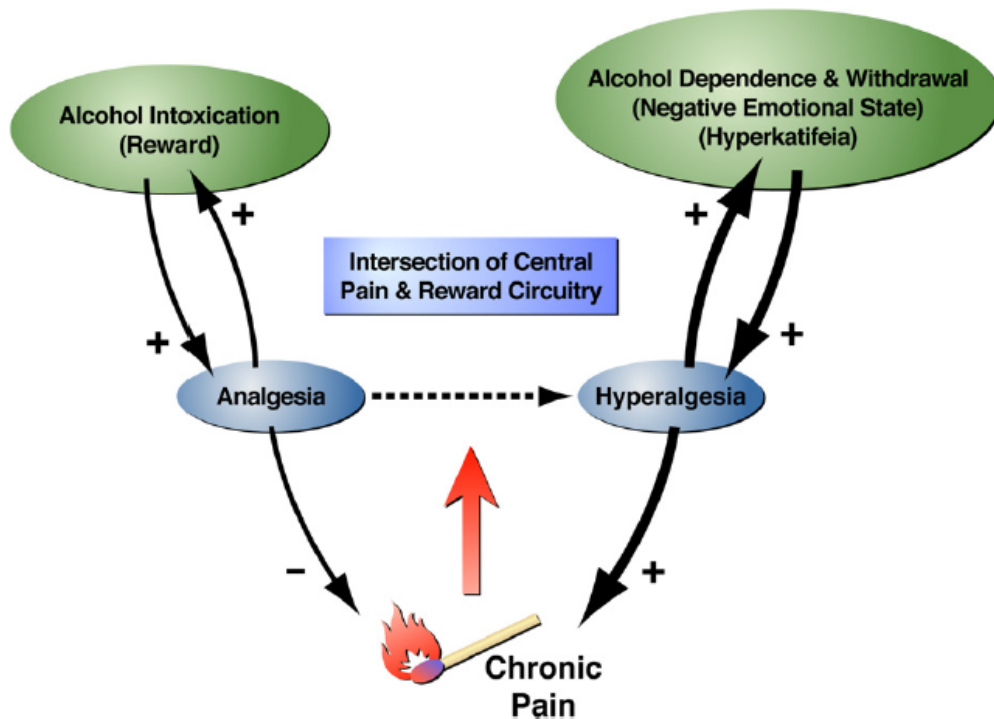
^a Division of Neuroscience and Behavior, National Institute on Alcohol Abuse and Alcoholism, NIH, DHHS, Bethesda, MD

^b Committee on the Neurobiology of Addictive Disorders, The Scripps Research Institute, La Jolla, CA, United States



Alcohol use, negative affect, and pain are inherently linked via overlapping neural substrates

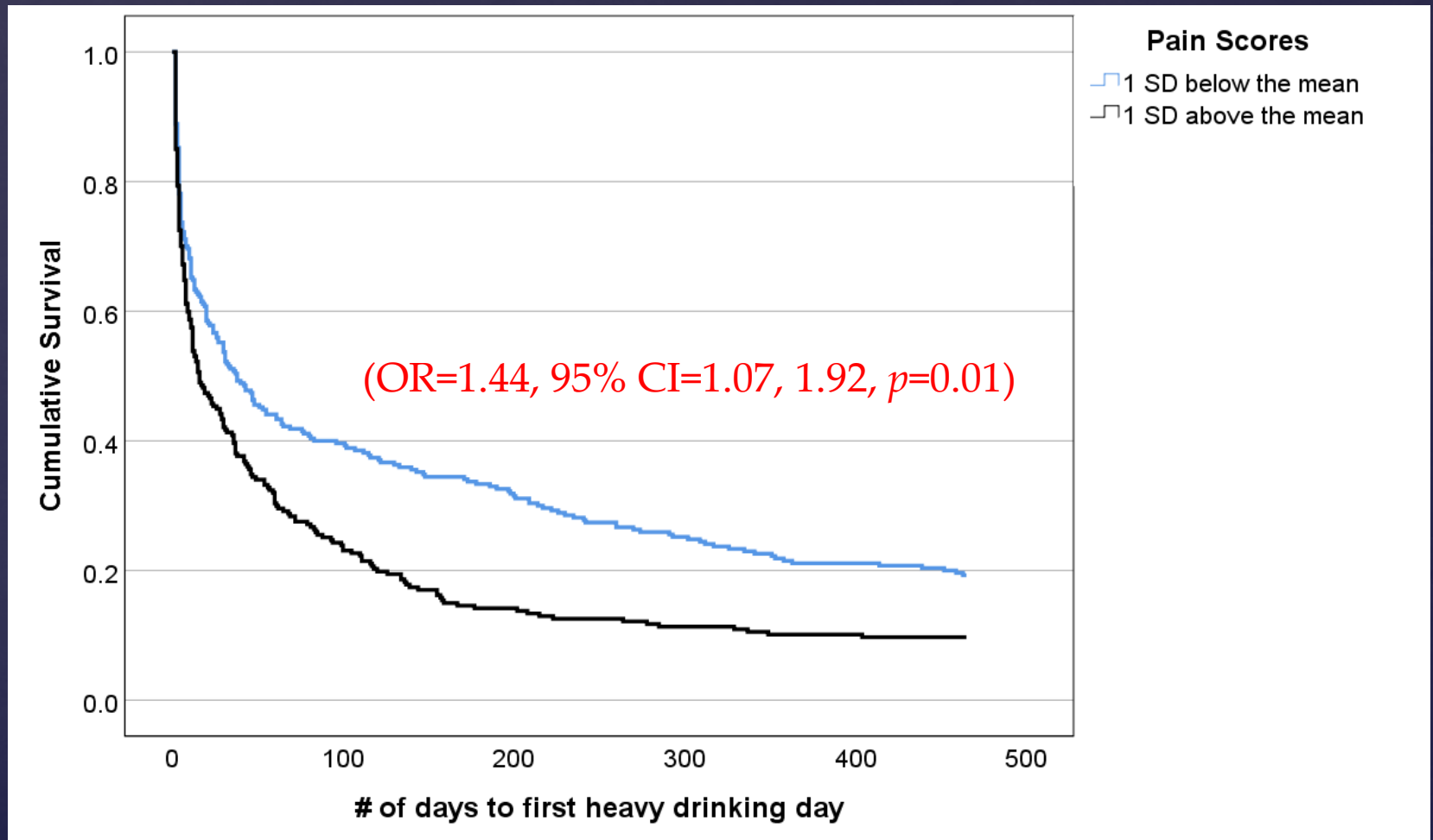
M. Egli et al. / Neuroscience and Biobehavioral Reviews 36 (2012) 2179–2192



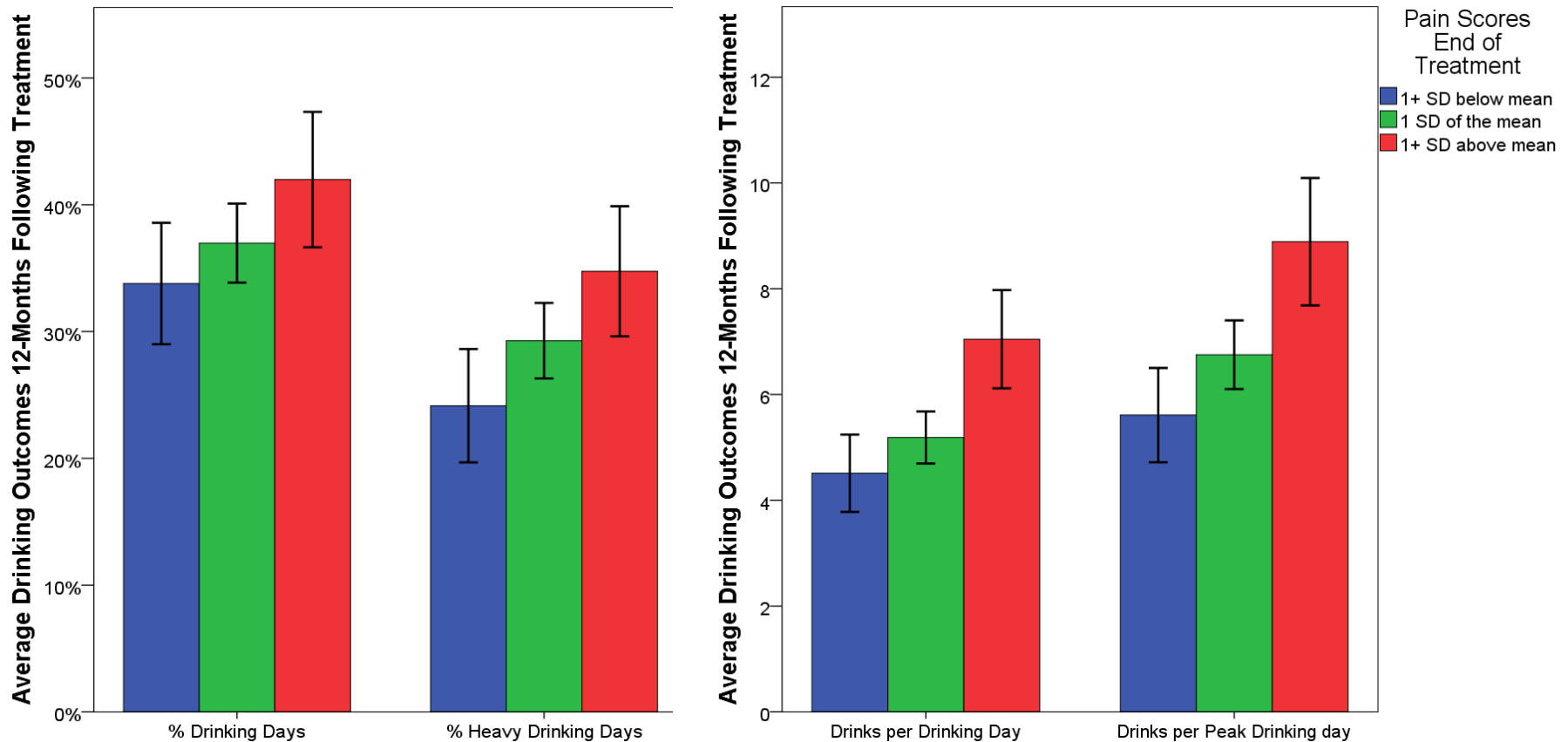
Acute pain increase urges to drink and alcohol self-administration in rodent and human models, which may increase hypersensitivity to pain



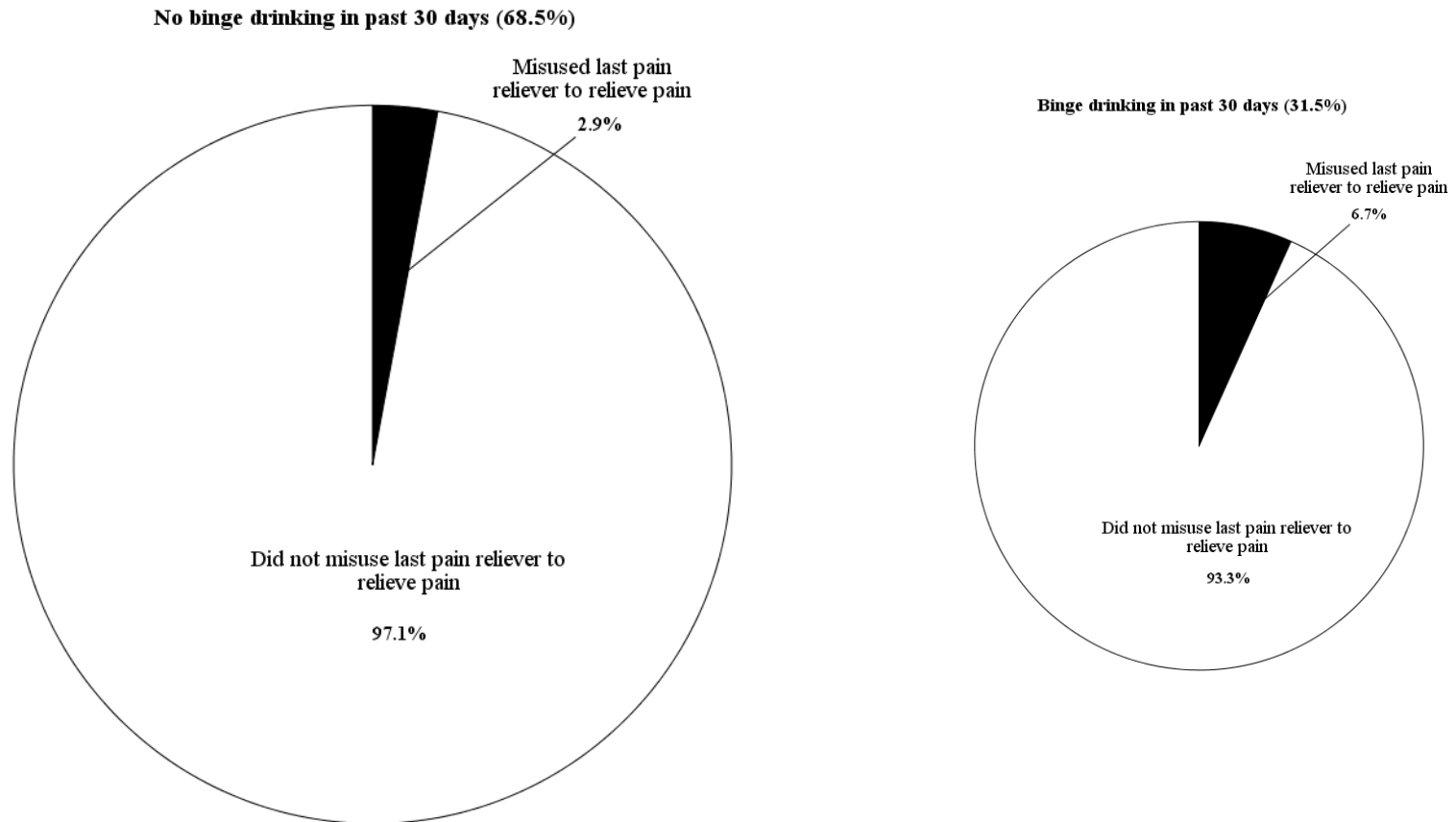
Pain increases risk of heavy drinking relapse following alcohol treatment



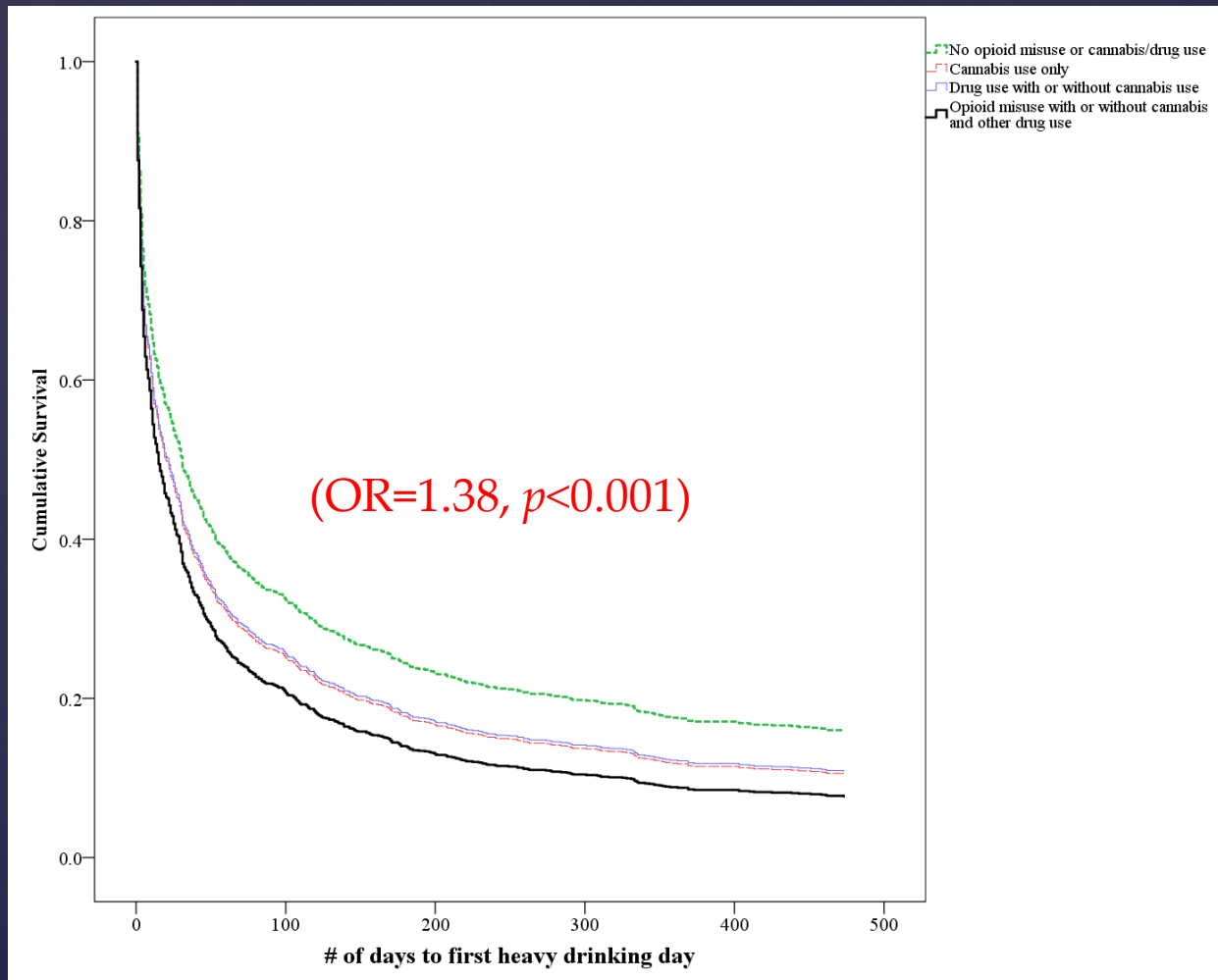
Pain associated with heavier and more frequent drinking following alcohol treatment



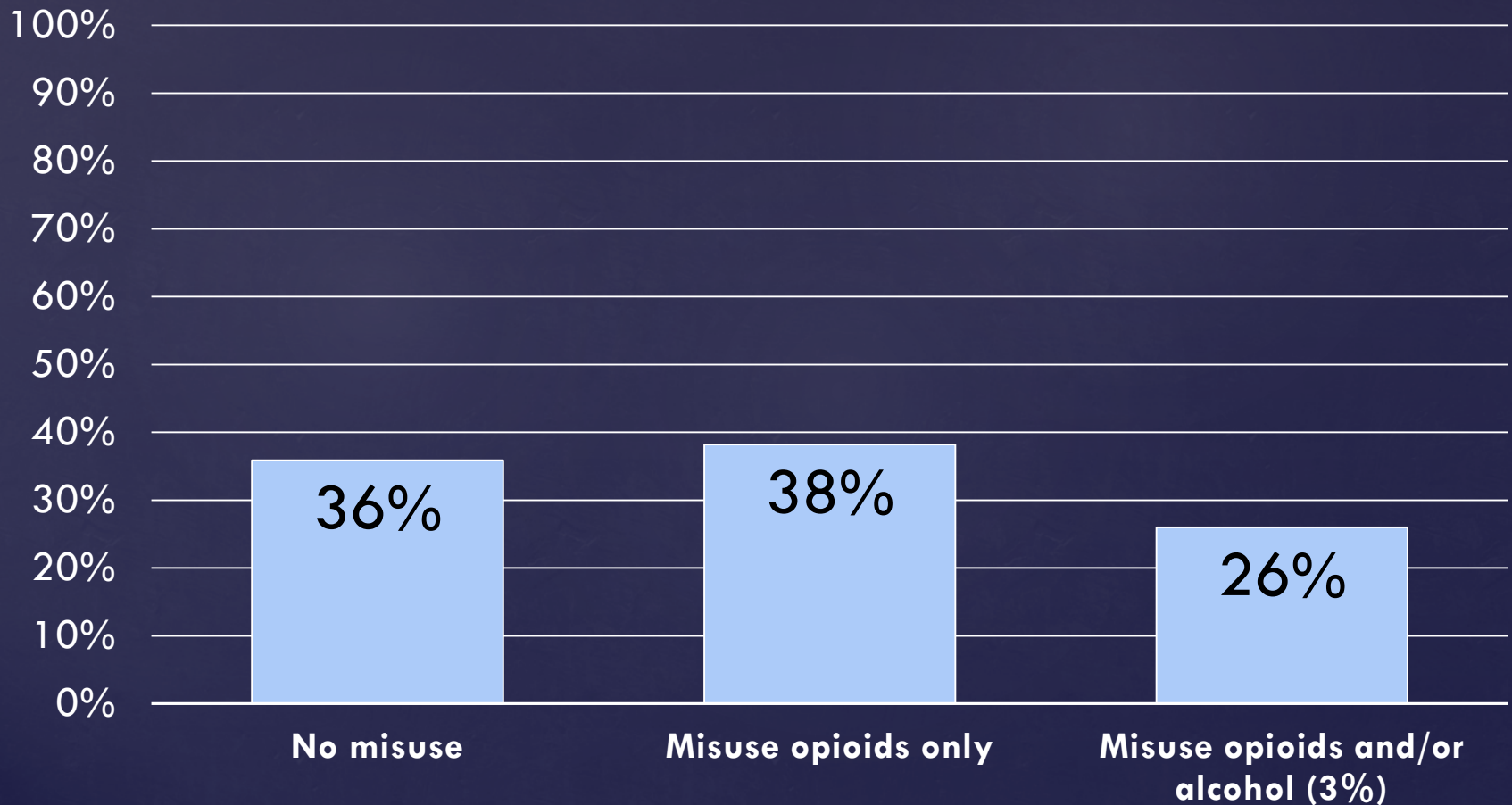
Alcohol use associated with 2.5x increase in rates of misusing opioid medications to relieve pain



Opioid use increases risk of heavy drinking relapse following alcohol treatment



Chronic pain patients who are prescribed opioids report misuse of opioids and alcohol



Vowles et al (2018). *Journal of Pain*.

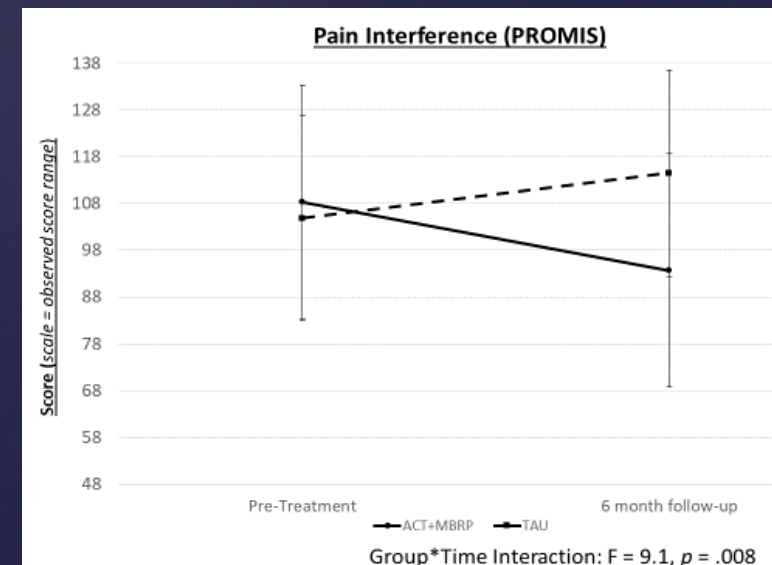
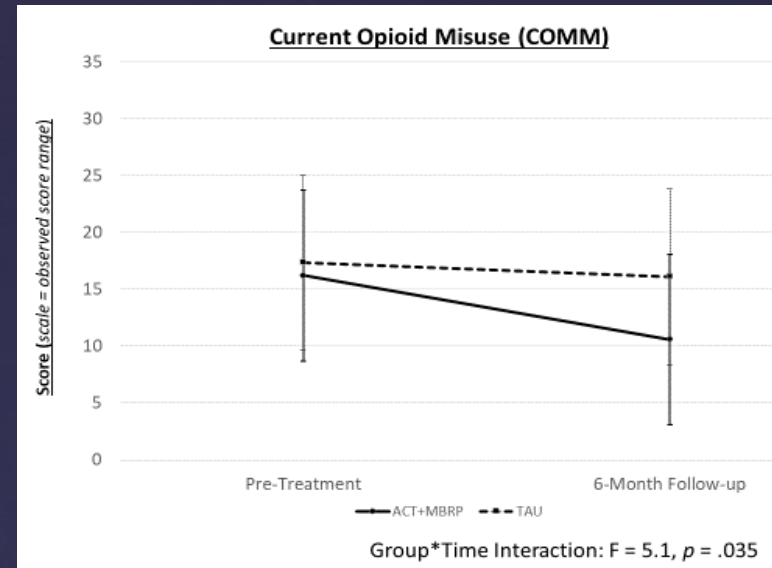
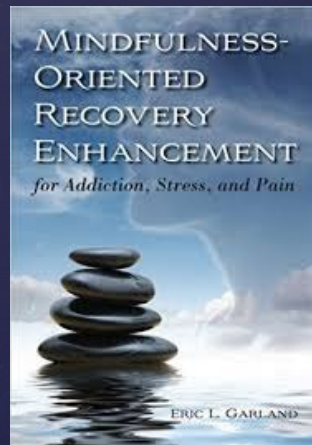
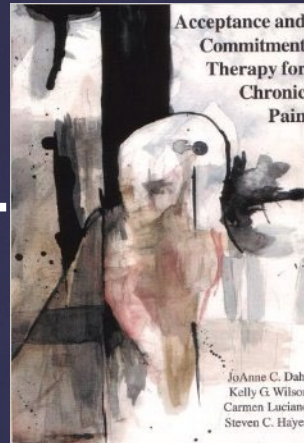
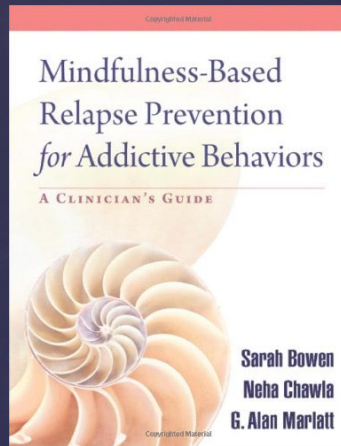
Most individuals who misuse prescription opioids report doing so for pain relief, regardless of AUD diagnosis

Table 1. Prevalence of Motives for participants' last episode of prescription opioid misuse by alcohol use disorder (AUD) status.

	All participants (N = 2,627)		No AUD Symptoms (n = 1,440)		AUD Symptoms without Disorder (n = 467)		AUD Diagnosis (n = 720)	
	Count (n)a	%	Count (n)a	%	Count (n)a	%	Count (n)a	%
Pain Relief	1,772	72.2	1,056	77.5	319	75.4	397	57.3
To Relax	730	25.8	328	21.1	131	24.6	271	37.8
To Get High	642	20.5	262	14.8	107	20.2	273	34.3
For Sleep	421	15.6	192	13.5	86	15.7	143	20.7
For Emotions	309	9.6	133	7.4	50	11.4	126	13.6

What can be done?

Promising approaches...



Vowles et al (in press). *Journal of Pain*

What can be done?

Potential pharmacotherapies

Glucocorticoid receptor antagonism decreases alcohol seeking in alcohol-dependent individuals

Leandro F. Vendruscolo,¹ David Estey,¹ Vivian Goodell,¹ Lauren G. Macshane,¹ Marian L. Logrip,¹ Joel E. Schlosburg,¹ M. Adrienne McGinn,² Eva R. Zamora-Martinez,¹ Joseph K. Belanoff,³ Hazel J. Hunt,³ Pietro P. Sanna,¹ Olivier George,¹ George F. Koob,¹ Scott Edwards,² and Barbara J. Mason¹

¹The Scripps Research Institute, La Jolla, California, USA. ²Department of Physiology and Alcohol and Drug Abuse Center of Excellence, LSU Health Sciences Center, New Orleans, Louisiana, USA.

³Corcept Therapeutics, Menlo Park, California, USA.

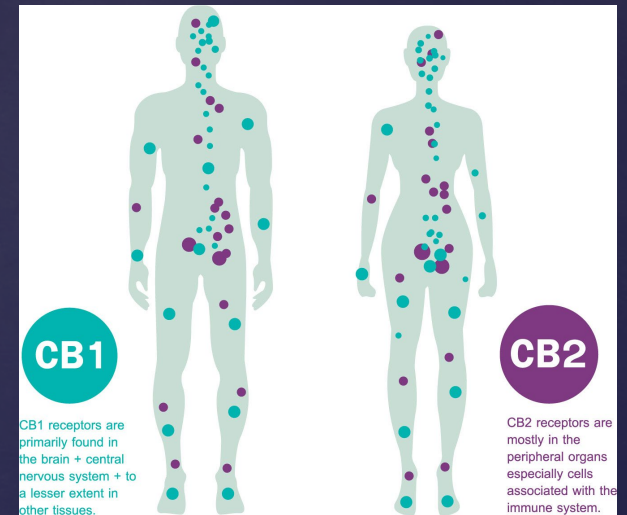
European Journal of Pharmacology
Volume 524, Issues 1–3, 7 November 2005, Pages 80–83

Short communication

Effects of glucocorticoid receptor antagonists on allodynia and hyperalgesia in mouse model of neuropathic pain

Ichiro Takasaki, Takashi Kurihara, Hironao Saegusa, Shuqin Zong, Tsutomu Tanabe  

Vivitrol[®]
(naltrexone for extended-release injectable suspension)



Original Investigation

March 9, 2020

Efficacy of Gabapentin for the Treatment of Alcohol Use Disorder in Patients With Alcohol Withdrawal Symptoms

A Randomized Clinical Trial

Raymond F. Anton, MD¹; Patricia Latham, PhD¹; Konstantin Voronin, MD, PhD¹; [et al](#)

» Author Affiliations

JAMA Intern Med. 2020;180(5):728–736. doi:10.1001/jamainternmed.2020.0249

Edwards et al (2020). *Alcoholism: Clinical & Experimental Research*

What needs to be done?

- **Basic Science**
 - Clinical relevance of many traditional animal models of pain and excessive alcohol consumption
 - Take precautions to NOT exclude heavy drinkers/those with AUD or OUD from human lab studies of pain
- **Clinical Science**
 - Gold standard measurement of substance use and pain interference
 - Carefully consider implications of exclusions that will reduce generalizability to MOST individuals

Neurosci Biobehav Rev. 2019 May ; 100: 335–343. doi:10.1016/j.neubiorev.2019.03.009.

Pros and Cons of Clinically Relevant Methods to Assess Pain in Rodents

Anke Tappe-Theodor^{1,*}, Tamara King², and Michael M. Morgan³

Alcohol. 2014 May ; 48(3): 205–208. doi:10.1016/j.alcohol.2014.04.001.

Animal models of excessive alcohol consumption: Recent advances and future challenges

Howard C. Becker^{*} [Guest Editor] and

Prescription
Opiate Addiction
Study (POATS)



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Extended-Release
Naltrexone vs.
Buprenorphine
(X:BOT)



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