ANALGESIC RESEARCH

Epidemiology of Comorbid Pain and Substance Abuse

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Key Questions

- How many people have both pain and substance abuse?
- Why does it matter?

Comorbidity Model

Pain

- Acute
- Subacute
- Chronic

Substance Abuse

- Non-disordered vs. disordered
- Illicit vs. prescription
- Opioid vs. nonopioid

Comorbidity Model: Negative Association

Pain

- Acute
- Subacute
- Chronic

Substance Abuse

- Non-disordered vs. disordered
- Illicit vs. prescription
- Opioid vs. nonopioid

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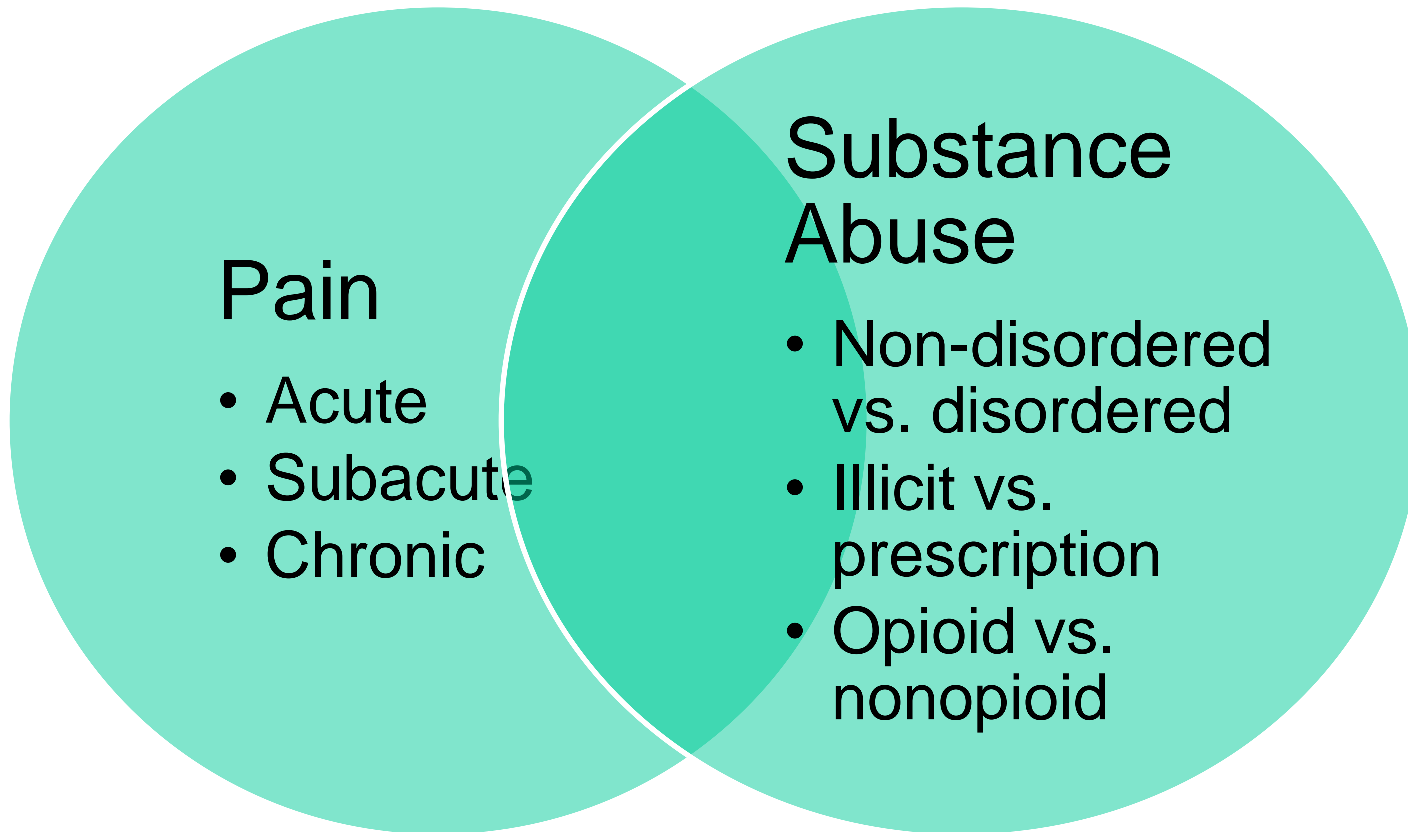
Comorbidity Model: Positive Association



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The Nuprin Pain Report

	% of Americans with Pain	% with pain >31 days/year	Number with pain >31 days/yr	% severe or unbearable	No. with severe or unbearable pain >31days/yr
HEADACHE	73	18	32,850,000	36	11,826,000
BACKACHE	56	27	37,800,000	48	18,144,000
MUSCLE PAIN	53	18	23,850,000	25	5,962,500
JOINT PAIN	51	32	40,800,000	36	14,688,000
STOMACH	46	10	11,500,000	38	4,370,000
MENSTRUAL	40	9	9,000,000	47	4,230,000
DENTAL	27	7	4,725,000	59	2,787,750

Louis Harris & Assoc, 1985

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Chronic Pain in America

- National survey of 500,000 US households
- 9% of adult U.S. population estimated to have chronic moderate-to-severe pain (17,482,410)
- Most have had it for over 5 years

Roadblocks to Pain Relief, Roper Starch, 1998

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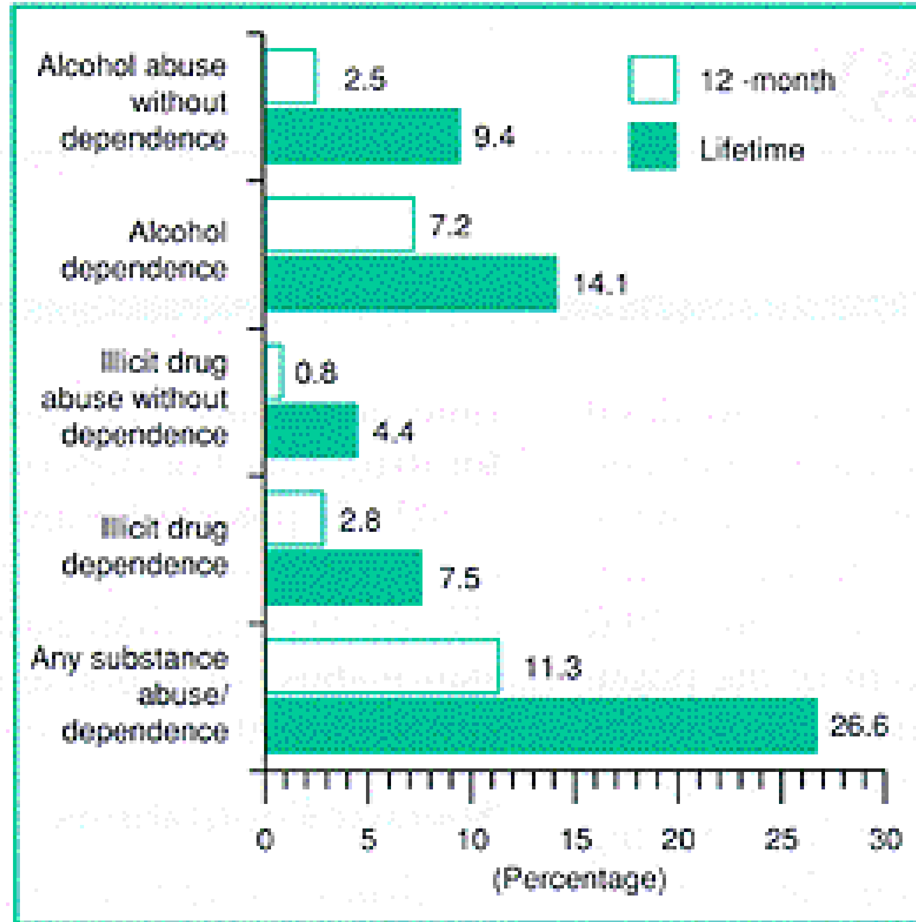
Prevalence of Substance Use Disorders



Adapted from Kessler RC, McGonagle KA, Zhai S et al. Lifetime and 12 month prevalence of DSM-III-R psychiatric disorders in the United States: results from the National Comorbidity Survey. Arch Gen Psychiatry 1994; 51:8-19

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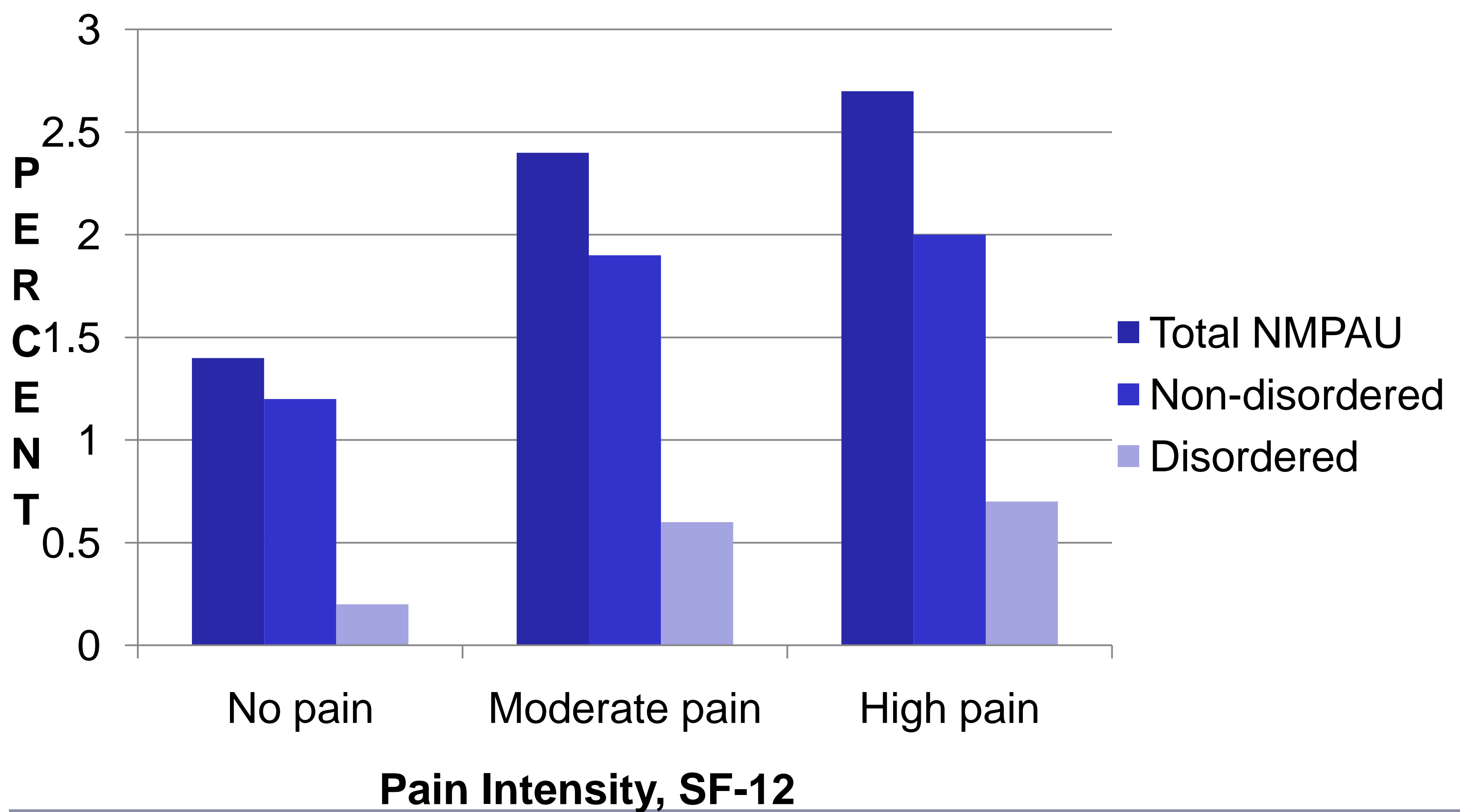
Drug Alcohol Depend. 2009 February 1; 100(1-2): 63–70. doi:10.1016/j.drugalcdep.2008.09.013.

Physical Pain, Common Psychiatric and Substance Use Disorders, and the Non-Medical Use of Prescription Analgesics in the United States

Scott P. Novak[1,*], **Mindy Herman-Stahl**[2], **Barbara Flannery**[3], and **Mark Zimmerman**[4]

Prescription Opioid Abuse Increases with Increasing Pain



Novak SP et al, Drug Alc Dep, 2009

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Pain and Prescription Opioid Abuse

Non-Medical Prescription Analgesic Use	Moderate or High Pain
None	69,856,000
Non-disordered	1,375,000
Disordered	450,000
TOTAL	71,682,000

Novak SP et al, Drug Alc Dep, 2009

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How many opioid addicts have pain?

Vol. 19 No. 1 January 2000 Journal of Pain and Symptom Management

Original Article

Characteristics of Methadone Maintenance Patients with Chronic Pain

Robert N. Jamison, PhD, Janice Kauffman, RN, and Nathaniel P. Katz, MD
Departments of Anesthesia (R.N.J., N.P.K.) and Psychiatry (R.N.J., J.K.), Brigham and Women's Hospital, Harvard Medical School, Boston, Massachusetts, USA

Take-Home Messages

- 63% of opioid addicts on methadone had chronic pain
- Chronic pain and opioid addiction are highly comorbid

Summary

- About 2 million Americans have both moderate-to-severe pain and abuse prescription opioids
- A higher number than that have moderate-to-severe pain and other types of substance abuse problems
- So what?

Importance of co-morbid pain and substance abuse

- Substance abuse history is the major risk factor for prescription opioid OD
- Pain patients prescribed opioids do worse if they are substance abusers
- They do better with special management
- Are certain pain medications safer in these patients than others?
- Pharmacotherapy for addictive disorders complicates pain management

Acetaminophen Use Modified in Alcoholic Patients

Liver Damage Warning

The package label for adult TYLENOL acetaminophen products states:

Liver warning: This product contains acetaminophen. Severe liver damage may occur if:

- Adult takes more than 4000 mg in 24 hours, which is the maximum daily amount
- Child takes more than 5 doses in 24 hours
- Taken with other drugs containing acetaminophen
- Adult has 3 or more alcoholic drinks every day while using this product.

Tylenol Professional Product Information, 2010

NSAIDs and Alcohol

Studies have shown that patients with a *prior history of peptic ulcer disease and/or gastrointestinal bleeding* and who use NSAIDs, have a greater than 10-fold risk for developing a GI bleed than patients with neither of these risk factors. In addition to a past history of ulcer disease, pharmacoepidemiological studies have identified several other co-therapies or co-morbid conditions that may increase the risk for GI bleeding such as: treatment with oral corticosteroids, treatment with anticoagulants, longer duration of NSAID therapy, smoking, alcoholism, older age, and poor general health status.

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Drug Selection Depends on Comorbidities

- When hypertension is accompanied by diabetes……..ACE inhibitors
- When osteoarthritis is accompanied by history of GI bleeding…acetaminophen
- Depression in context of bipolar disorder……avoid tricyclics
- When pain is accompanied by substance abuse……..???

Conclusions

- Comorbid chronic pain and substance use disorders occur in millions of Americans and result in significant morbidity and mortality
- Standard medical practice incorporates tailored pharmacotherapy based on medical and psychiatric comorbidities
- We need to consider how substance abuse influences management of pain and vice-versa, from clinical practice and drug development perspectives

BACKUP

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1990s: Pain specialists advocating opioid expansion while practitioners see opioid problems

Original Article

Chronic Opioid Therapy for Nonmalignant Pain in Patients with a History of Substance Abuse: Report of 20 Cases

Stuart A. Dunbar, MB, and Nathaniel P. Katz, MD
Department of Anesthesia (S.A.D); and Pain Clinic, Department of Anesthesia (N.P.K.), Brigham and Women's Hospital, Boston, Massachusetts

Chronic opioid therapy for patients with history of substance abuse (n=20)

Good Outcome (11)	Bad Outcome (9)
• Primarily alcohol	• Polysubstance
• Good family support	• Poor family support
• Membership in AA or similar groups	• No membership in support groups

Take-Home Messages

- **Some patients do well…….others do not.**
- **Even "high risk" patients can be stratified.**
- **Assessing risk…..and outcome…..is not easy.**

Dunbar & Katz, 1996

How many chronic pain patients have substance abuse problems? Can doctors tell?

Behavioral Monitoring and Urine Toxicology Testing in Patients Receiving Long-Term Opioid Therapy

Nathaniel P. Katz, MD*, Summer Sherburne, BA*, Michael Beach, MD, PhD†‡, Robert J. Rose, MD†, Janet Vielguth, RN†, Joyce Bradley, RN§, and Gilbert J. Fanciullo, MD, MS†

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The Role of Urine Toxicology Monitoring in Patients on Opioids for Chronic Pain

		BEHAVIOR ISSUES		
		YES	**NO**	**TOTAL**
URINE TOX	**POSITIVE**	10 (8%)	26 (21%)	36 (29%)
	NEGATIVE	17 (14%)	69 (57%)	86 (71%)
	TOTAL	27 (22%)	95 (78%)	122

53/122 (43%) of patients had compliance problems (positive urine screen or behavioral issues)

Katz & Fanciullo, 2001

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Top MD Specialties* Prescribing Immediate-Release Opioids, 1998 vs. 2002

(WITH Hydrocodone & Oxycodone Combination Products)

1998

MD Specialty	% Prescriptions
DENTISTRY	15.5%
FAMILY PRACTICE	13.0%
ORTHOPEDIC SURGERY	11.5%
INTERNAL MEDICINE	11.1%
OSTEOPATHIC MEDICINE	6.7%
EMERGENCY MEDICINE	5.5%
GENERAL SURGERY	4.2%
OBSTETRICS/GYNECOLOGY	3.5%
ALL OTHERS	28.9%

2002

MD Specialty	% Prescriptions
FAMILY PRACTICE	14.6%
DENTISTRY	12.2%
INTERNAL MEDICINE	12.2%
ORTHOPEDIC SURGERY	10.2%
OSTEOPATHIC MEDICINE	7.8%
EMERGENCY MEDICINE	6.1%
GENERAL SURGERY	3.6%
OBSTETRICS/GYNECOLOGY	3.2%
ALL OTHERS	30.2%

•Source: IMS Health, National Prescription Audit Plus™, Year 1998 to 2002, Excluding Long-Term Care & Mail Order Channels, Data Extracted August 2003.

Historical Perspectives

- "It is better to suffer pain than to become dependent upon opium"
  - – Diagoras of Melos, 3rd Cent. B.C.
- "Opium should be completely avoided [due to risk of dependence]"
  - – Eristratus of Chios, 5th Cent. B.C.

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Fishbain DA et al. Drug abuse, dependence, and addiction in chronic pain patients. Clin J Pain 1992

- 7 studies found defining and measuring addiction in chronic pain patients
- Prevalence of abuse, dependence, and addiction 3.2-18.9%
- Studies plagued with methodologic challenges

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Aberrant drug-taking and undertreatment of pain in cancer and AIDS

- 73 HIV pts with SUD; 100 cancer pts without SUD
- High prevalence of aberrant drug-taking behaviors among HIV pts:
  - Dose escalation (26%)
  - Using someone else's pain meds (46%)
  - Seeing multiple MDs without their knowledge (11%)
  - Obtaining opioids from the street (14%)
  - Use of alcohol to control pain and associated sx (51%)
- Addictions worsened as a result of increased pain (32%)

Passik SD et al. 4th Conf. Pain Mgt & Chem Dependency, 2000

Pain in Methadone Maintenance Patients

- 61.3% (of 250) reported chronic pain
- Average pain duration: 10 years
- Avg. time on methadone: 8.5 years
- This represents a cohort of 153 chronic pain patients with a 100% prevalence of substance abuse
- However, even these patients can be managed successfully with opioids in the right setting