



# How long and discontinuation strategies for buprenorphine

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# Objectives

- Discuss optimal duration of MAT using buprenorphine
- Discuss strategies if one is to discontinue MAT using buprenorphine





No empirical data on the “optimal” duration of treatment using MAT in opioid use disorder

- but we do know some things about duration of treatment





# INITIAL THOUGHTS ON BUPRENORPHINE

- Due to its partial mu agonist pharmacology and extended receptor occupation time should lend itself to a less severe withdrawal syndrome
- The population of opioid users was younger, shorter periods of use, pain pills vs heroin , less IV use, more functional
- Initial hope, maybe enthusiasm, that buprenorphine could be used as a agent for “detoxification” (medically managed withdrawal). This was based on the assumption that most relapse was due to uncontrolled withdrawal symptoms





## Buprenorphine tapering schedule and illicit opioid use, Ling W., et al, Addiction 2009:104

- 255 patients in 7 day taper, 261 in 4 week taper
- END OF TAPER
  - 44% (113/202) of 7 day taper provided negative urines
  - 30% (78/172) of 28 days taper provided negative urines
- 30 Days after taper
  - 18% (45/131) of 7 day taper provided negative urines
  - 18% (46/123) of 28 day taper provided negative urines
- 90 days after taper
  - 12% (31/92) of 7 day taper provided negative urines
  - 13% (35/114) of 28 day taper provide negative urines



## Buprenorphine tapering schedule and illicit opioid use, Ling W., et al, Addiction 2009:104

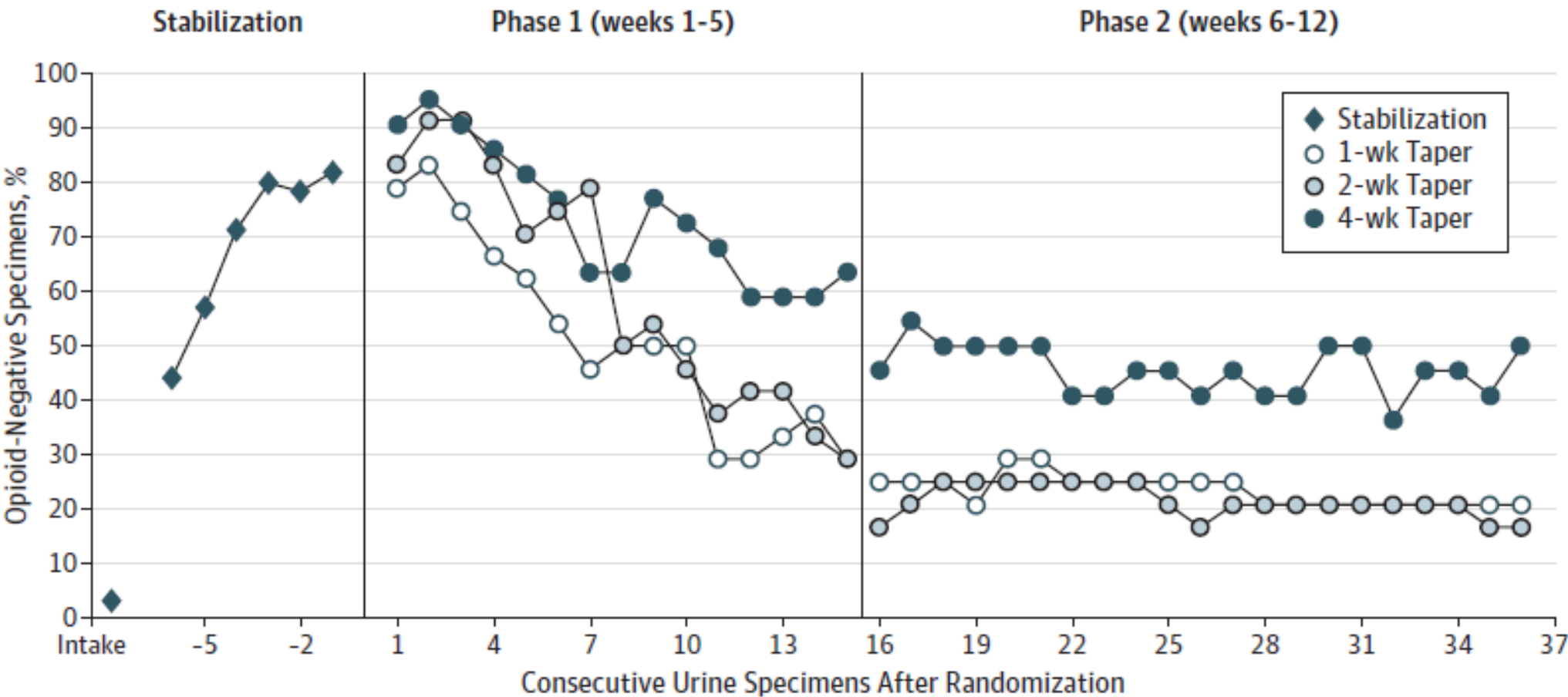
	COWS		ARSW		VAS	
	7D	28D	7D	28D	7D	28D
Baseline	8.7	8.3	63	62	71	68
Stabilization	.97	.95	11	11	12	13
End of taper	2.7	2.5	22	18	24	23
1 month	1.6	.98*	15	14	26	22
3 months	.8	1.2	12	13	19	24





A randomized, double-blind evaluation of buprenorphine taper duration in primary prescription opioid abusers.  
Sigmon S.C., et al., JAMA Psychiatry , 2013

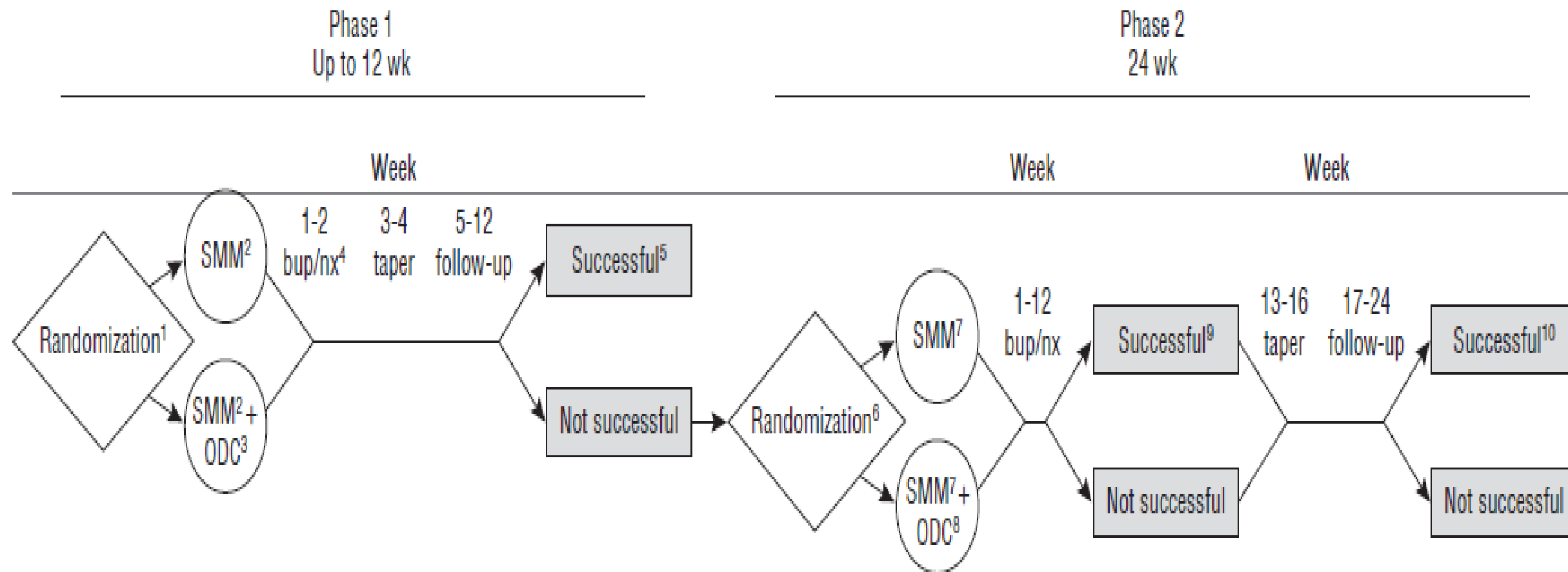
Figure 3. Effects of Buprenorphine Taper Duration on Illicit Opioid Abstinence Achieved







# Adjunctive Counseling During Brief and Extended Buprenorphine-Naloxone Treatment for Prescription Opioid Dependence: A 2-Phase Randomized Controlled Trial. Weiss RD, et al., Arch Gen Psych/vol 68 (12), 2011



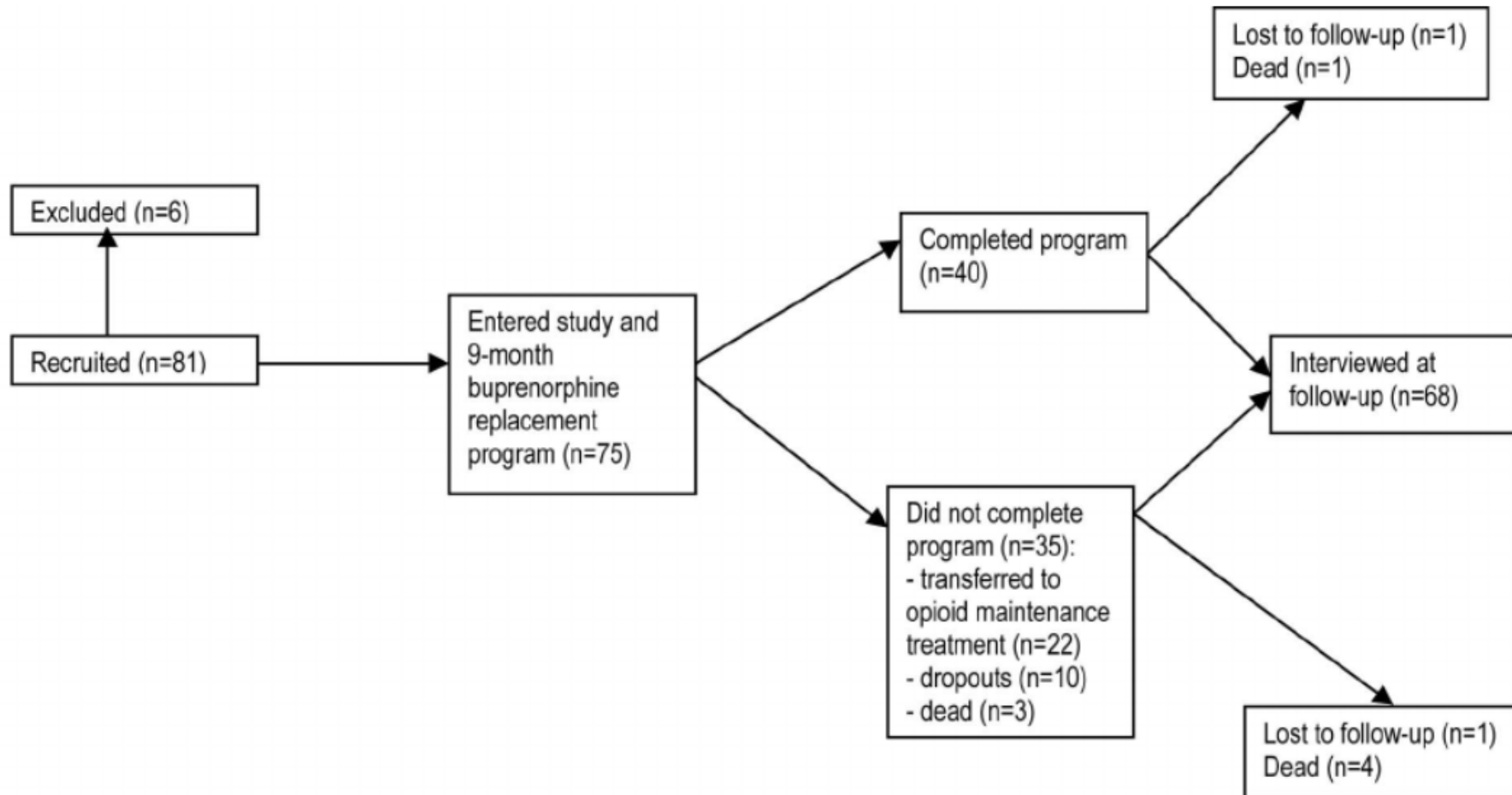


Adjunctive Counseling During Brief and Extended Buprenorphine-Naloxone Treatment for Prescription Opioid Dependence: A 2-Phase Randomized Controlled Trial. Weiss RD, et al., Arch Gen Psych/vol 68 (12), 2011

- 43/653 (6%) had successful outcomes in phase 1 ( 2 week detox)
- 177/360 (49%) has successful outcomes at week 12 (still on bup)
- 31/360 (8.6%) had successful outcomes at week 24



Time limited buprenorphine replacement therapy for opioid dependence: 2-year follow up outcomes in relation to programme completion and current agonist therapy status.  
Kornor H, et al., Drug and Alcohol Review (26), 2007





Time limited buprenorphine replacement therapy for opioid dependence: 2-year follow up outcomes in relation to programme completion and current agonist therapy status.  
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- 9 of 75 (12%) were abstinent from all opioids at follow up
  - of these 1 spent 30 days in prison, 1 was in a residential treatment program and 5 were on naltrexone)



# OPTIMAL DURATION OF THERAPY

- TIPS 63 “ patients should take buprenorphine as long as they benefit from it and wish to continue it”





Forever is a long  
time but I  
wouldn't mind  
spending it with  
you.

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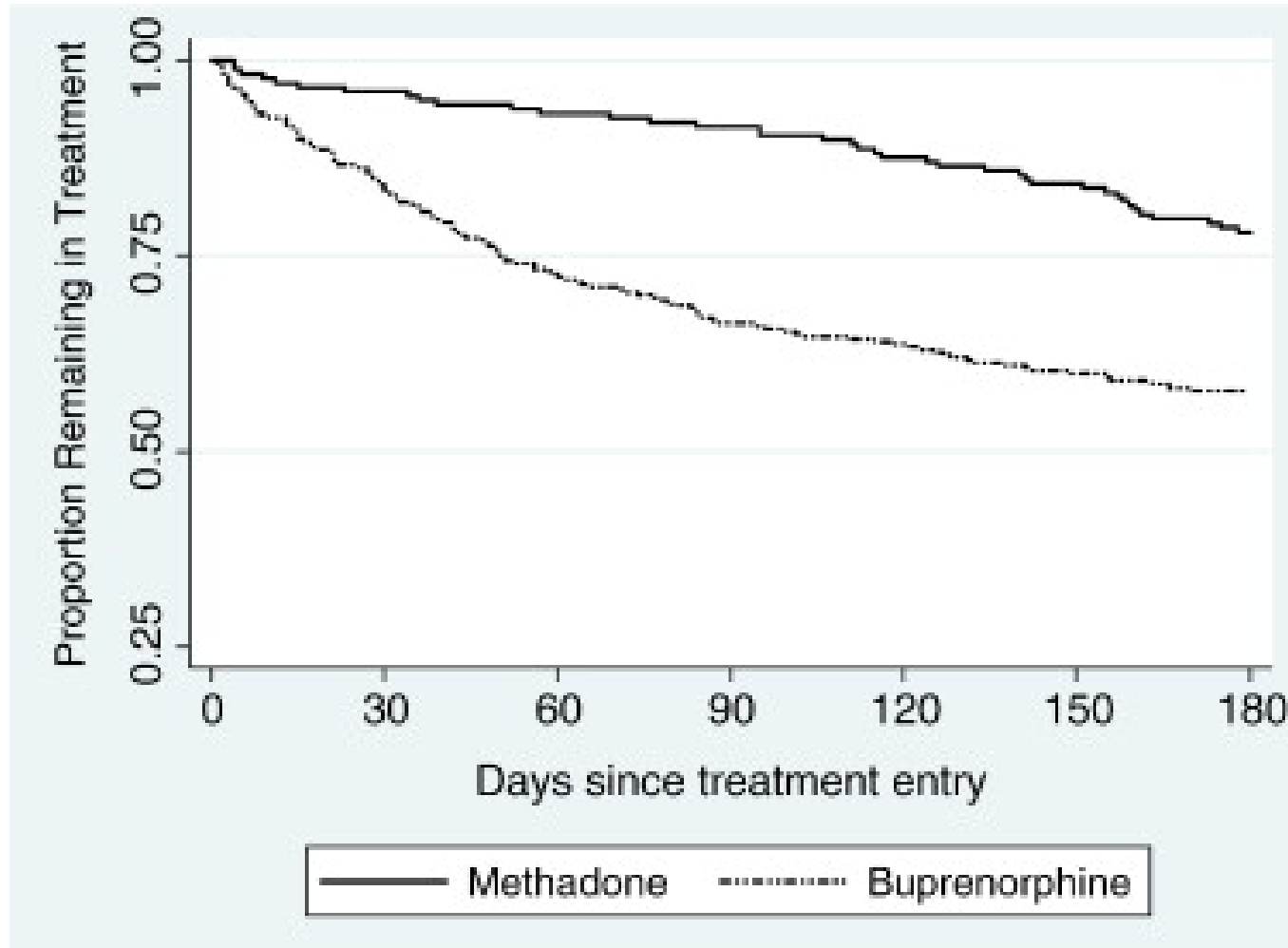
Forever is a long  
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EXCEPT IF  
YOU ARE  
BUPRENORPHINE

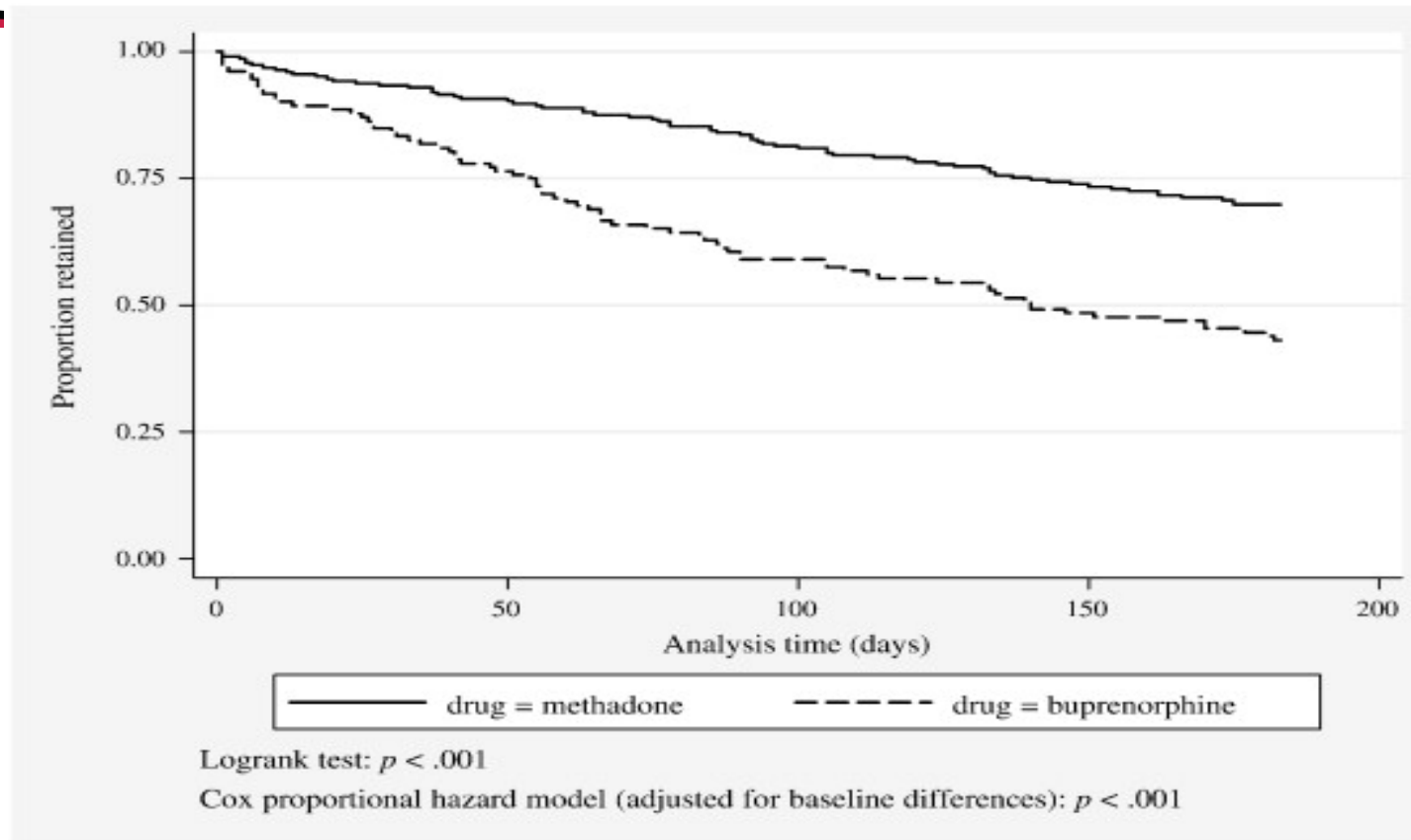


# Buprenorphine Retention Rates



Retention in methadone and buprenorphine treatment among African Americans. Gryczynski J, et al., Journal of Substance Abuse Treatment 2013 (45)

# Buprenorphine Retention Rates



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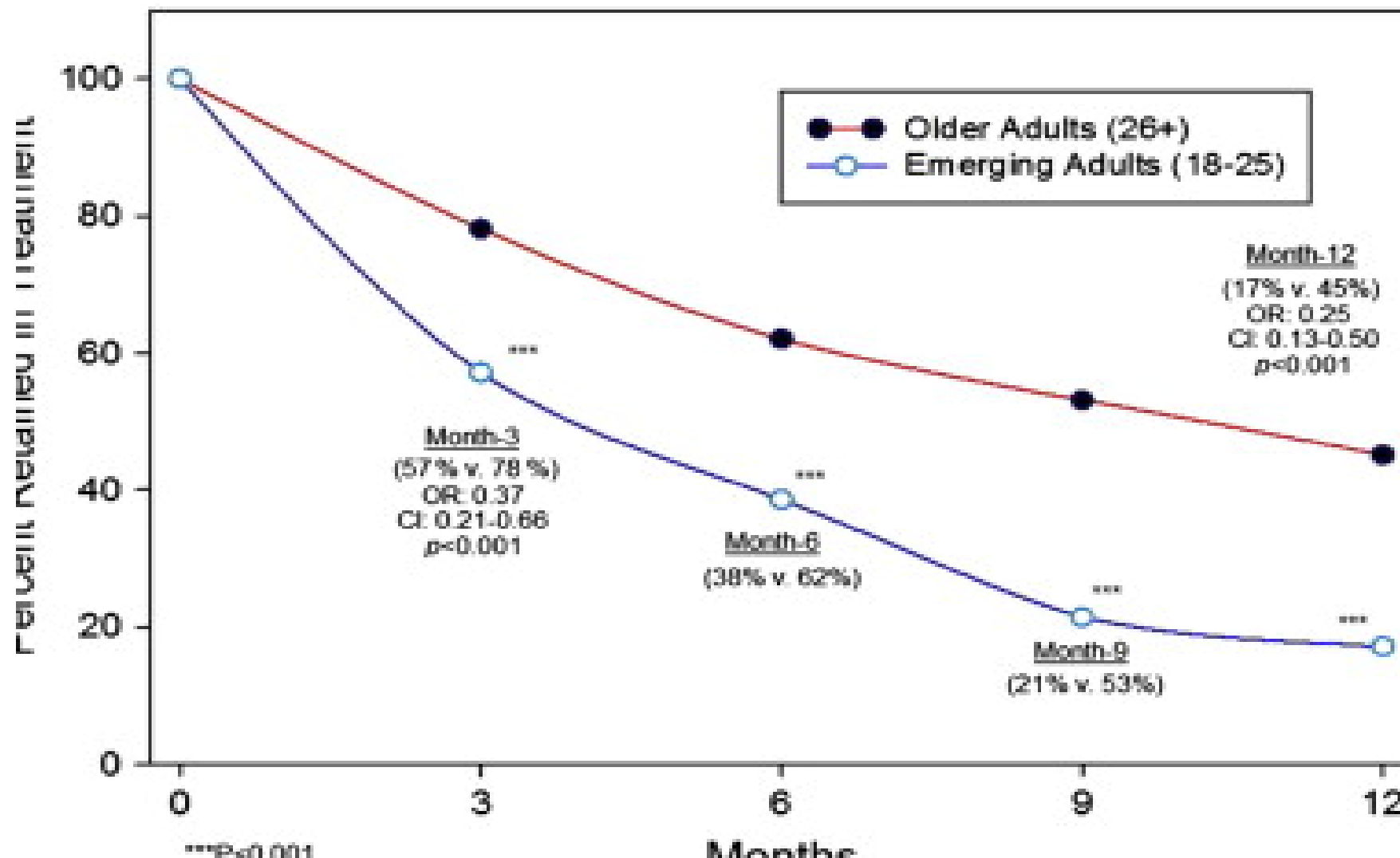
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Fig. 2. Survival analysis showing retention in treatment for methadone versus buprenorphine.

The SUMMIT Trial: A field comparison of buprenorphine versus methadone maintenance treatment Pinto H, et al., Journal of Substance Abuse Treatment (39) 2010



Emerging adult age status predicts poor buprenorphine retention. Schuman-Oliver Z, et al Journal of Substance Abuse Treatment (47) 2014





# Why do patients stop buprenorphine

	Percent endorsing reason
Discharged involuntarily due to disagreement with program staff	24% ( <i>n</i> = 33)
Discharged involuntarily for missing too many days at the program	17% ( <i>n</i> = 24)
Program conflicted too much with life, work, or school obligations	17% ( <i>n</i> = 23)
Left to get treatment at another provider	14% ( <i>n</i> = 20)
Discharged involuntarily due to too many positive urines	9% ( <i>n</i> = 12)
Incarcerated and did not return after release	7% ( <i>n</i> = 9)
Did not like the medication	4% ( <i>n</i> = 6)
Financial (discharged for not paying fees; insurance ended; too costly)	4% ( <i>n</i> = 6)
Left because the provider was too strict	4% ( <i>n</i> = 6)
Left because wanted to keep using drugs	4% ( <i>n</i> = 6)
Finished treatment successfully	4% ( <i>n</i> = 6)
Discharged for breaking program rules	4% ( <i>n</i> = 5)
Moved out of town	3% ( <i>n</i> = 4)
Did not have transportation to get to the program	3% ( <i>n</i> = 4)
Felt addiction recovery was not possible while taking medication	1% ( <i>n</i> = 2)





Tapering off and returning to buprenorphine maintenance in a primary care Office Based Addiction Treatment program. Weinstein ZM, et al., Drug and Alcohol Dependence (189) 2018

- 12 year retrospective cohort study of adults on buprenorphine in a primary care practice
- 1308 patients  
48 patients were observed to taper off during the study period
- 13/48 subsequently reengaged





Two-year Experience with Buprenorphine-naloxone for Maintenance Treatment of Opioid Dependence Within a Private Practice Setting. Finch,J, et al., Journal of Addiction Medicine , June 2007

- Retrospective chart review of patients enrolled in private practice (OBOT) in North Carolina
- 71 patients over 24 months
- Average age 32, 4 yrs of use, 93% white, 70% employed
- - 24% drop out
  - 43% maintained
  - 21% tapered successfully
  - 7% methadone
  - 4% inpatient treatment





Defining dosing pattern characteristics of successful tapers following methadone treatment: results from a population –based retrospective cohort study. Nosyk B, et al., Addiction 2012

- British Columbia data base of methadone dispensed looking at those who had a taper
- 4917 tapers
  - 1305 completed taper to less than 5mg
  - 659 reentered treatment, died or relapsed
  - 646 (13% ) successful tapers
- Factor associated with success
  - younger, male, better treatment compliance, lower maximum total dose, longer taper durations (tapers 12-52 weeks were 3.58 more likely to succeed, tapers > 52 weeks were 6.68)



# QUESTIONS THAT NEEDS AN ANSWER

- Majority of patients will not taper off
- The majority who attempt taper will fail
- What are the predictors of a successful taper after a period of stabilization?
- What is the most successful strategy to maximize success of tapering off?



## FEAR/ANXIETY

- Leaving something comfortable, life saving
- Pain of withdrawal

ANTICIPATORY  
WITHDRAWAL

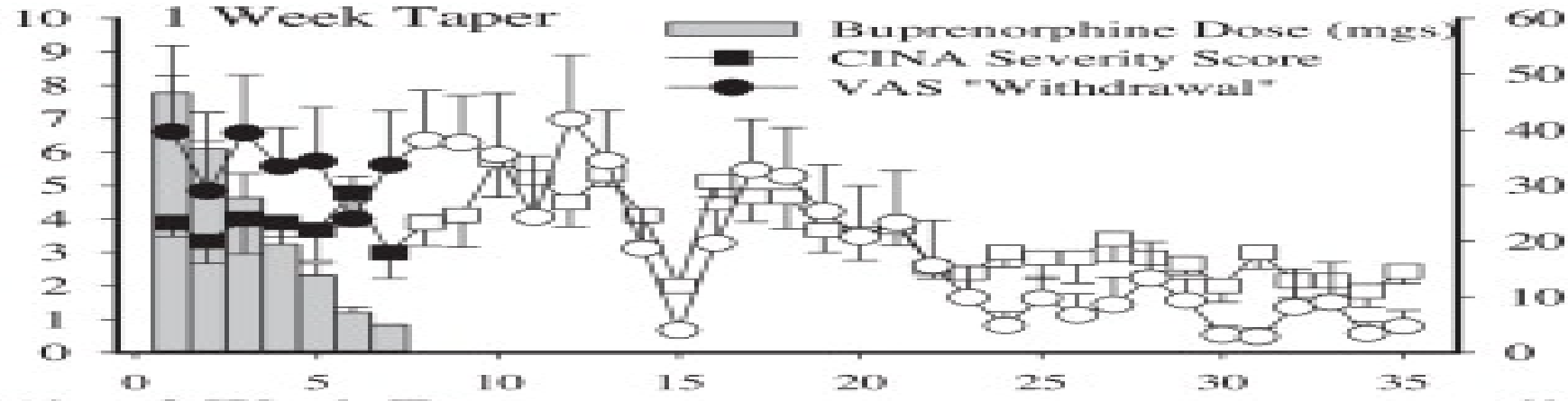




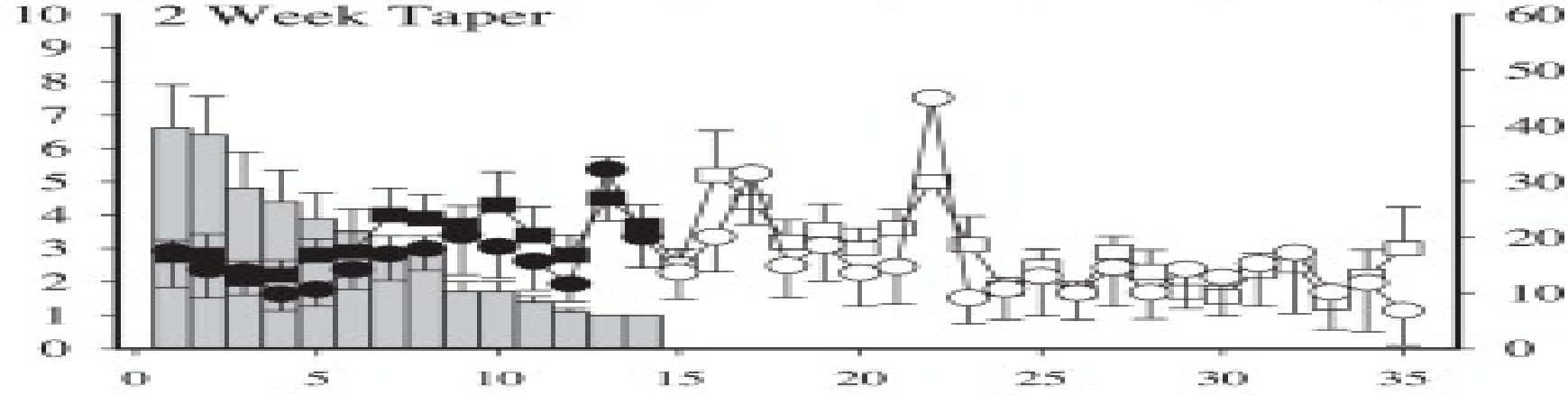
# BUPRENORPHINE WITHDRAWAL

- buprenorphine withdrawal lasts for a month or longer compared to heroin with withdrawals lasting 7 days.
- initial 72 hours physical symptoms predominate including nausea, vomiting, diarrhea, diaphoresis, irritability, anxiety.
- after 1 week the physical symptoms improve and general aches and pains continue with insomnia and mood swings
- after week 2 depression increases
- after one month the psychological symptoms of depressions and cravings continue and relapse likelihood is highest

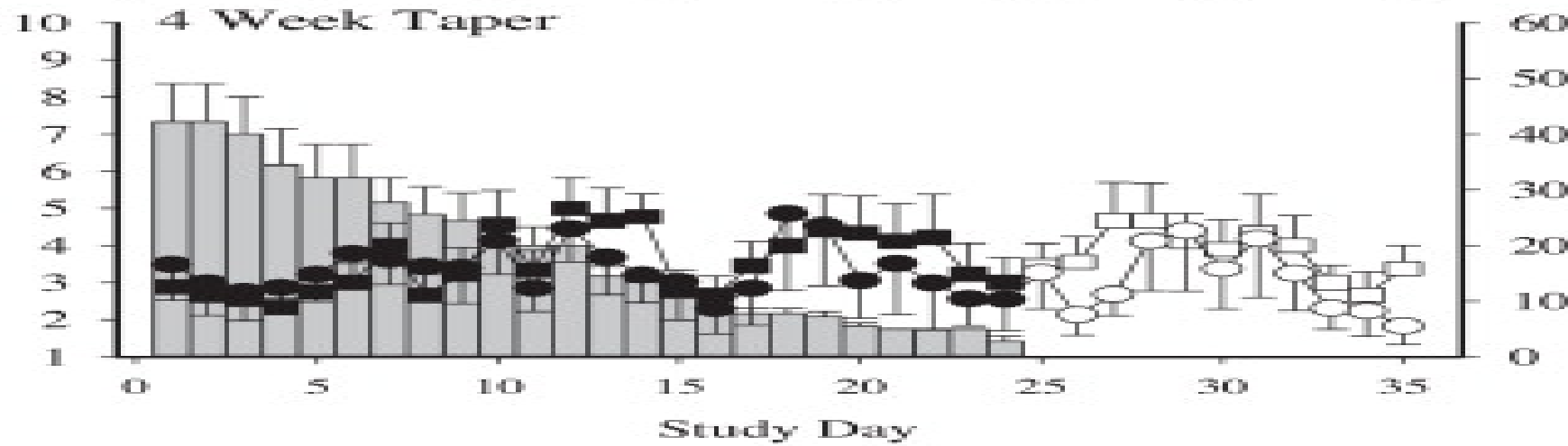
Mean CINA Ratings (range 0-31),  
Mean Buprenorphine dose (mgs)



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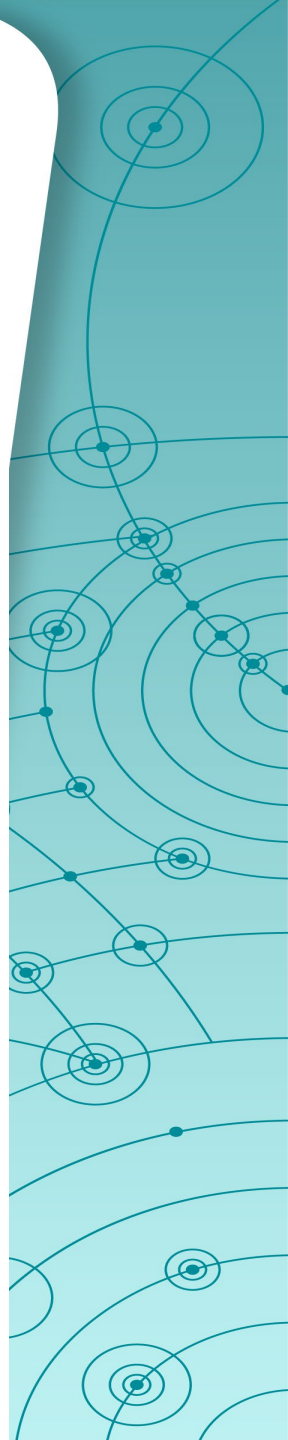
Mean CINA Ratings (range 0-31),  
Mean Buprenorphine dose (mgs)



Mean VAS Ratings (range 0-100)


Mean VAS Ratings (range 0-100)

Mean VAS Ratings (range 0-100)



*Anticipation  
is making  
me wait.*





# Predictors of successful weaning

- Length in treatment prior to weaning
- Length of abstinence
- Duration of weaning
- Vocational/financial stability
- Socialization with non-drug users
- Strong motivation
- “Lack of detoxification phobia”
- Stable family





Effective buprenorphine use and tapering strategies:  
Endorsements and insights by people in recovery from opioid  
use disorder on a Reddit forum. Graves, RI, et al., BioRxiv 2019

- Reviewed 16,146 posts about buprenorphine from 1933 uniques
- Information about tapering was third most common subject (32%)
- More successful recovery with longer tapering schedules, particularly from 2.0 to 0 mg (Mean 95 days) which was viewed as the most challenging part
- Diarrhea, insomnia, restlessness and fatigue most common symptoms
- Physical exercise, clonidine and Imodium were most helpful
- The most frequent/poplar final dose was .063mg



# Buprenorphine weaning strategies

- Discuss reasons
- Informed shared decision
- Agree upon strategy
- Start after achieving lowest dose maintenance dose
- Increase support
- Taking buprenorphine once in AM so blood levels are lowest during sleep
- Initial increments can be larger (4mg)
- The percent decrease is more important than the total decrease



# Buprenorphine weaning strategies

- The hardest part may be the 2mg – 0mg
- Pause the taper when a dose decrease causes unacceptable discomfort
- Allow the patient some level of control
- Expect overtaking during a taper
- Adjuvant medications



# Buprenorphine weaning strategies

- Exercise
- The door remains open to increase or come back (home induction)
- Have a plan for post taper (Naltrexone)
- Chronic pain patients not likely to do well
- Follow up after the taper is over



# Adjuvant pharmacology during taper

- Clonidine, lofexidine
- Dicyclomine, loperamine, promethazine, ondansetron
- Trazadone, hydroxyzine, benadryl
- Treatment of anxiety / anhedonia ?
- Avoid benzos and stimulants
-



# FUTURE EXPLORATIONS

- Use of injectable as part of a tapering protocol
- Use of microdosing using patches in a tapering protocol
- Ultrarapid detoxifications
- Ketamine





# SUMMARY

- There should be no pressure to taper off buprenorphine if it is working
- To optimize success, > 1 year of abstinence, lowest dose possible for maintenance, slow taper (months), increase support
- Always keep the door open