ED-initiated buprenorphine

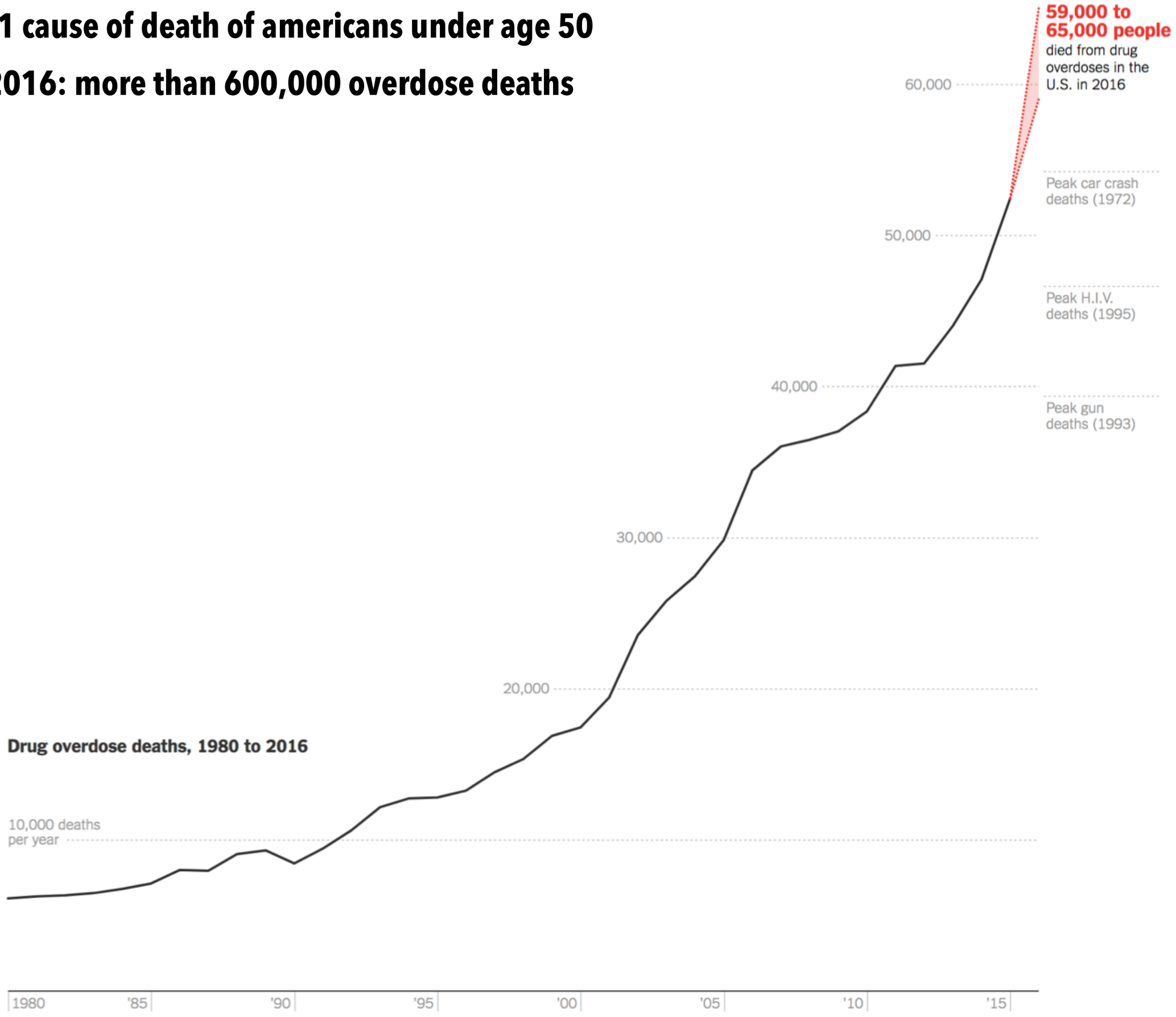
expanding the scope of emergency care during an addiction epidemic

reuben j. strayer
maimonides medical center
brooklyn

@emupdates
emupdates@gmail.com
emupdates.com

OD is #1 cause of death of americans under age 50

1999-2016: more than 600,000 overdose deaths



ED management of pain and misuse during an epidemic

1. prevent opioid naive patients from becoming misusers by your prescription

calculate benefit:harm whenever opioid Rx considered
if opioid Rx, small number of low dose, lower-risk pills

2. for existing opioid users

2a. revealed, willing

"I'm an addict, I need help"
aggressive move to treatment
ED-initiated buprenorphine
arranged speciality followup

2b. revealed, unwilling

"I overdosed"
harm reduction, LowThreshBup
supportive stance, open door

2c. partially revealed

"I have chronic pain and need meds"
avoid opioids in ED or by prescription
opioid alternatives for pain
express concern that opioids are causing harm

2d. unrevealed

"I have acute pain and need meds"
risk stratify with red & yellow flags
PDMP - move positives to willingness

MAT: medication assisted treatment
is **the** treatment for opioid addiction

MAT: medications for addiction treatment
OAT: opioid agonist treatment
MOUD: medication for opioid use disorder
OST: opioid substitution treatment

abstinence **does not work**

abstinence does not work
for opioid addiction

detox does not work
rehab does not work
12-step does not work
NA does not work
counseling does not work

27% relapse on day of discharge from rehab
65% relapse at one month
90% relapse at one year

very dangerous

Bailey 2013

abstinence.
does not work.
for opioid addiction.

MAT:

naltrexone
methadone
buprenorphine

MAT: medication assisted treatment

naltrexone

monthly depot opioid antagonist

abstinence therapy

withdrawal
cravings

MAT: medication assisted treatment

methadone

long-acting full opioid agonist

effective but abuse-prone and dangerous

requirement to present to clinic every day is great for a very few patients but for everyone else a completely insane, stigma-driven barrier to care

MAT: medication assisted treatment

buprenorphine

partial opioid agonist

ceiling effect: much safer, less euphoriant

higher receptor affinity than almost any other opioid

will precipitate withdrawal if not in withdrawal

less abuse-prone and blocks more abuse-prone opioids

bup is uniquely suited to treat opioid addiction:
less dangerous, less abuse-prone vs. methadone, more likely to abolish craving, protects users from OD by more dangerous opioids

MAT: medication assisted treatment

buprenorphine

buprenorphine + naloxone = Suboxone
naloxone additive is (mostly) inert unless injected
naloxone component intended only to prevent IV abuse

however, bup/nalox still abused
though bup mono (Subutex) has a higher street value

and the naloxone component in bup/nalox causes usually mild but non-trivial withdrawal symptoms in a minority of patients who take it sublingually as intended

buprenorphine "abuse"

everyone who has OUD and uses bup is protected by bup

if you use more bup than prescribed
you are protected by bup

if you buy bup on the street
you are protected by bup

if you use bup with benzos, full agonists, booze, whatever
you are protected by bup

if you crush and inject bup, you expose yourself to injection harms but
you are **still** protected by bup

every patient with OUD not already in a medication-based treatment program should be treated with bup

diverted bup is used for its intended purpose

MAT: medication assisted treatment

buprenorphine

slow acting & long-acting

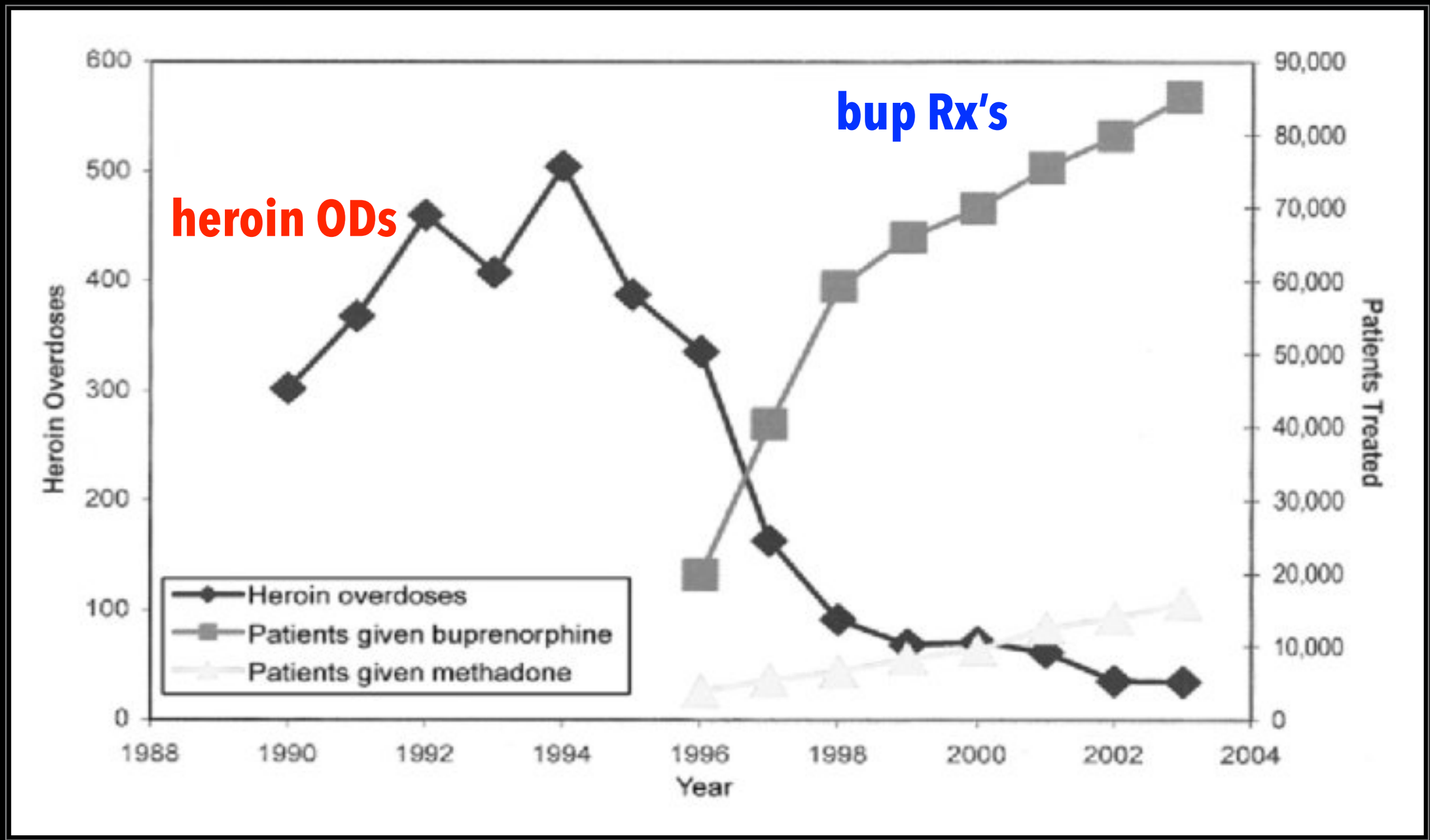
reduces abuse potential

+ceiling effect = long dosing intervals

DATA 2000 (X) waiver requirement

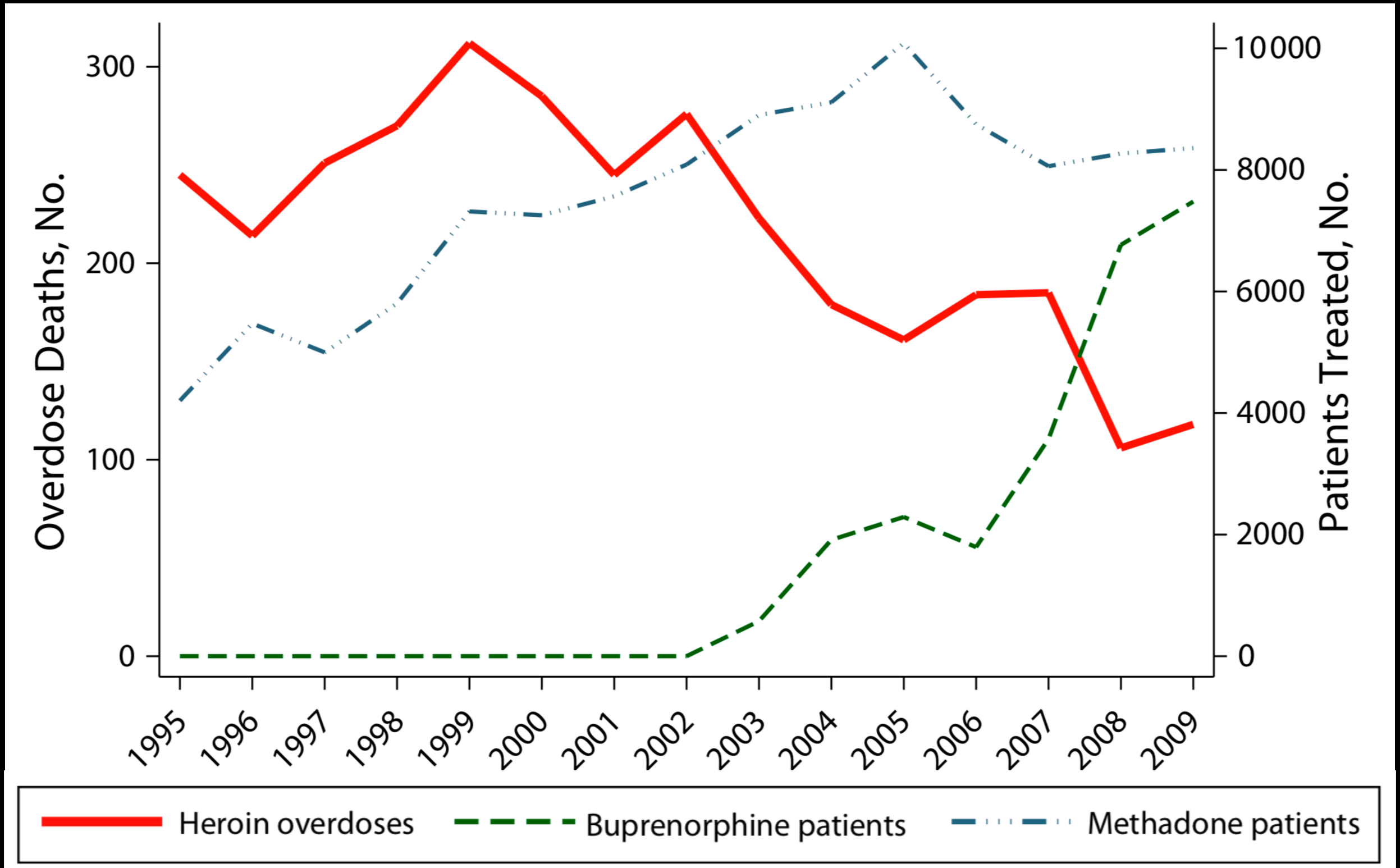
abolished as of January 2023

in 1996, France responded to its heroin overdose epidemic by training/licensing GP's to prescribe buprenorphine

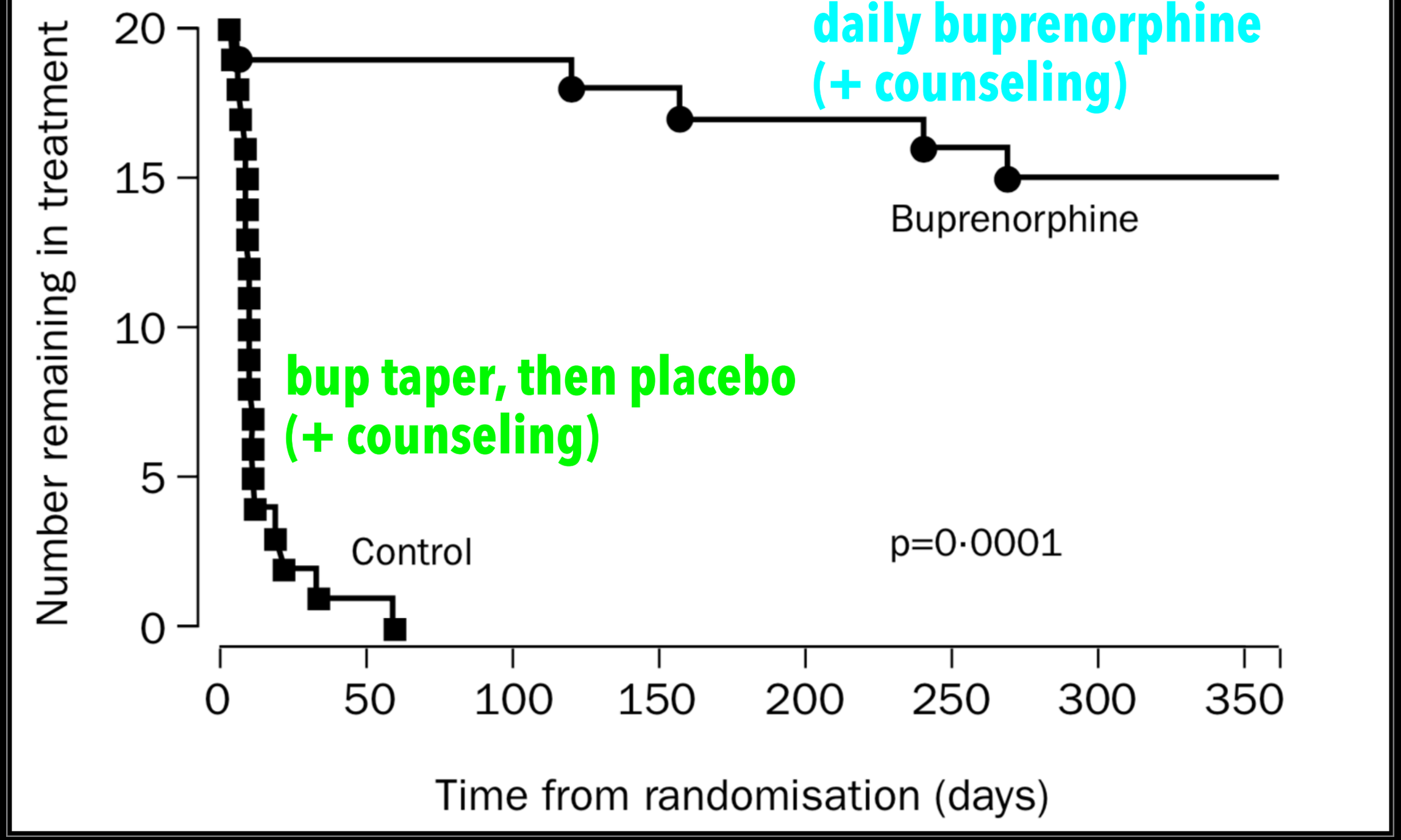


Auriacomb 2004

Heroin overdose deaths and opioid agonist treatment
Baltimore, MD, 1995–2009



Schwartz 2013



1-year retention in treatment: 0% and 75% in the placebo and buprenorphine groups

Kakko 2003
PMID 12606177

"adding any psychosocial support to standard maintenance treatments does not add additional benefits."

everyone needs a therapist, but a person addicted to opioids needs an opioid agonist

opioid addiction

desperate need to avoid withdrawal

constant debilitating cravings

perpetual cycling of highs/lows

normal functioning impossible

acquisition harms: poverty, crime, frantic behavior

injection harms: local infections, HIV/Hep C, endocarditis

street drug harms: accidental overdose/death

prescribed
opioid agonist

opioid dependence

scheduled opioid consumption

freedom from addiction harms

normal life possible

Detox Facilities

Medical Detox Facilities (may have rehab also)

Metropolitan Hospital
1900 2nd Ave.
212-423-6822 (clinic); x7312 (PER); x7117 (beds)
Population: M/F >18
Hours: 24 hours thru ER
Services: Inpatient 14-bed detox; avg 14 day stay. May place in Metro Clinic Rehab after detox.
Payment: all insurance and self-pay
Transport: 96th St. subway stop
ID: preferred, but not required

North General
Madison Ave. (121st and 122nd)
212-423-1330 (Mark Gauntlet)/4318/4404
Population: M/F >18. No woman past 1st trimester.
Hours: MWThF 8am-10pm; Tu 8am-4pm; Sa 10am-6pm. Other times thru ER.
Services: Inpatient detox 4-5 days.
Payment: all insurance and self-pay
Transport: facility *may* send a van
ID: if no MCD-Birth Certificate, Driver License, Rent/Utility bill, pay stub, or meal card if in shelter

Harlem Hospital
22-44 W. 137th St. (Lenox and 5th). ER at 136th & 5th.
212-939-1083/8102/3328 (ER). 939-3033 DTP/rehab
Population: M/F >18
Hours: screening 8am-3pm. ER other hours.
Services: Inpatient detox 3-10 days. No cocaine or crack unless medical prob (pregnant, HIV, etc.). Also have extensive rehab and DTP (any substances).
Payment: all insurance and self-pay
Transport: 2 or 3 train to 135th
ID: preferred, but not required

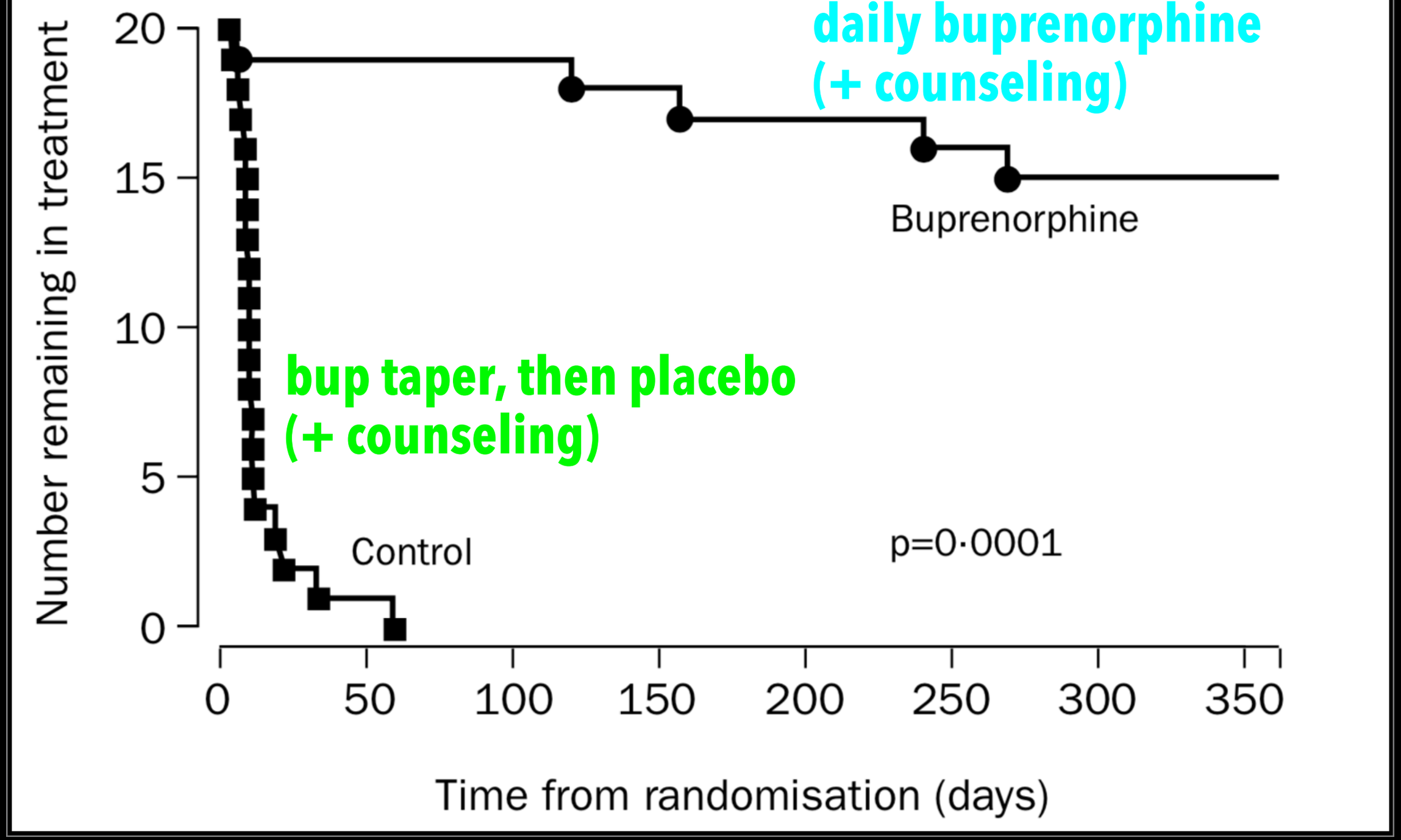
St. Vincent's Midtown
415 W. 54th between 9th and 10th
212-459-8103
Population: M/F >18
Hours: M-F 8:30-5:30, call first
Services: Inpatient detox about 4 days length
Payment: all insurance and self-pay (before 2pm)
Transport: C, E, 1, 9 trains
~~ID: if no ID need Support Letter from shelter~~

A.C.I. www.acihealthgroup.com
500 W. 57th St. at 10th Ave.; NY, NY 10019
1-800-724-4444; 212-293-3000; 212-378-4545
Population: M/F >18
Hours: 7 days a week, call for hours daily
Services: Inpatient and outpatient detox and rehab.
Payment: all insurance including MCD. Patients must be able to pay as there is no sliding scale at this private facility.
Transport: subway
ID: required

Beth Israel Medical Center
15th Street (1st and 2nd Ave.); Bernstein Pavilion, 1st fl
212-420-4220/4270
Population: M/F >18
Hours: M-F 7am-5pm; S-Su 9am-5pm; after 5pm thru ER
Services: Inpatient and outpatient detox, 7-10 days. Inpatient (28-day) and outpatient rehab.
Payment: all insurance and self-pay
Transport: *may* be able to assist 212-420-4270 (Reggie Schwartz)
ID: required

Coney Island Hospital
2601 Ocean Parkway; Brooklyn, NY 11235
718-616-5500
Population: M/F >18
Hours: admitting 8am-2pm
Services: Inpatient detox at hospital and outpatient rehab at outside clinic. No smoking.
Payment: all insurance and self-pay
Transport: D train to Brighton Beach; F to Ave. X
ID: required

Medical Arts/Cornerstone
57 W. 57th Street at 6th Ave.
212-755-0200
Population: M/F >18
Hours: 8am-8pm
Services: Inpatient detox up to 7 days. Inpatient 7-30 day rehab.
Payment: all private insurance. Take Medicaid or ~~self-pay only if alcohol related.~~
Transport: facility can send a van to pick-up patient
ID: required, if homeless need shelter or pic ID



1-year retention in treatment: 0% and 75% in the placebo and buprenorphine groups

1-year mortality: 20% and 0%

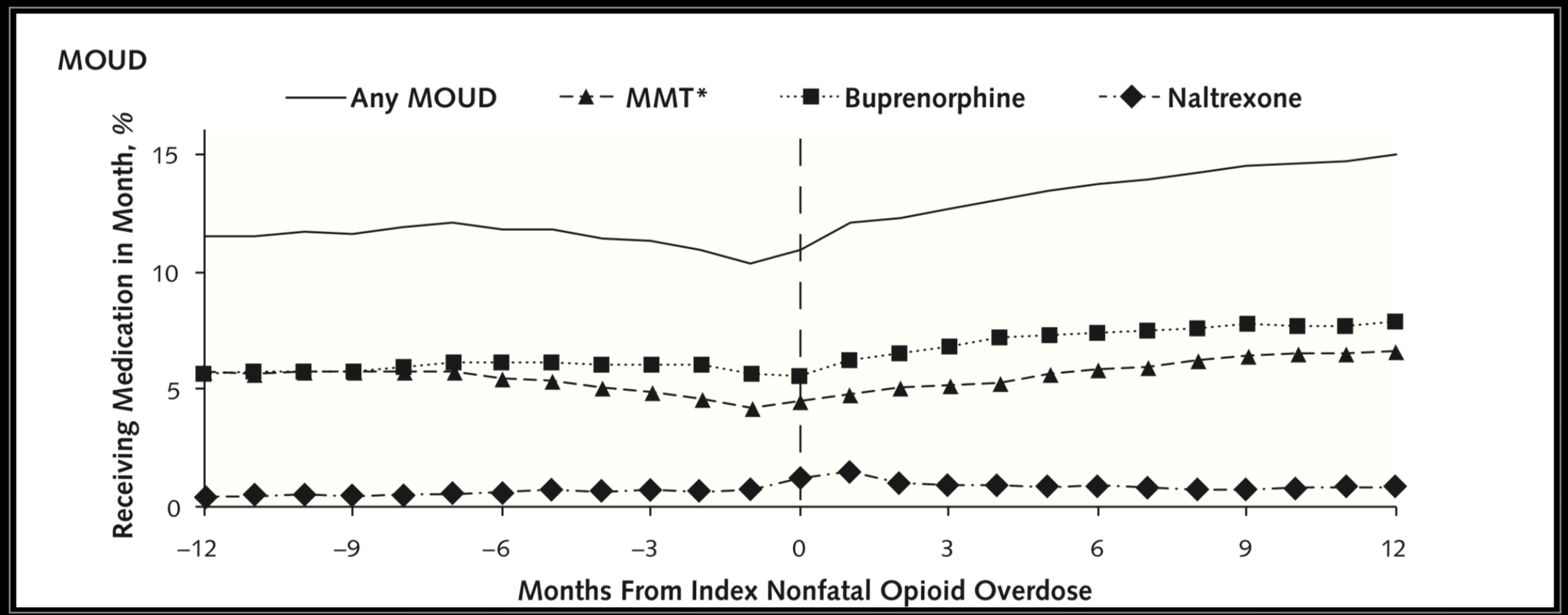
Kakko 2003
PMID 12606177

"A great part of the tragedy of this opioid crisis is that, unlike in previous such crises America has seen, we now possess effective treatment strategies that could address it and save many lives, yet tens of thousands of people die each year because they have not received these treatments."

Volkow 2018

Discharging a person addicted to opioids who is in withdrawal is more dangerous than any discharge we would ever consider in any other context

MAT utilization in the year following non-fatal opioid overdose



6%-17%

Larochelle 2018

I need help

I'm dope sick

I overdosed

I have fevers

I have cellulitis

I have pneumonia

I was assaulted

I was arrested

I was in jail

I'm selling sex and have an STI

I'm homeless and cold

the emergency department and inpatient wards is where these patients are

buprenorphine initiation

1 identify patient with OUD who is not already in medication-based OUD treatment program

2 is patient in adequate withdrawal? (COWS ≥8-12)
if yes, dose bup (8 mg SL, then probably another 8)
if no, figure out how to dose bup soon

3 refer to comprehensive outpatient addiction care with a buprenorphine Rx

alternative initiation strategies

home initiation

prescription vs. dispense, instructions, followup

emupdates.com/help

Starting Buprenorphine

Congratulations on starting Bup! You have buprenorphine tabs or films (2, 4, or 8 mg). They should be taken **under the tongue, not swallowed**.

When do I start?

You have to wait until you have enough withdrawal to start Bup, or Bup will CAUSE WORSE WITHDRAWAL.

The more withdrawal you have, the better Bup works.

Wait until you have at least 5 of the symptoms below. If you're not sure, WAIT LONGER. The longer you wait (and the more miserable you feel before taking Bup) the more satisfied you'll be with the effect. In general you should be more than 24 hours out from your last opioid dose.

Wait until you have FIVE of these symptoms

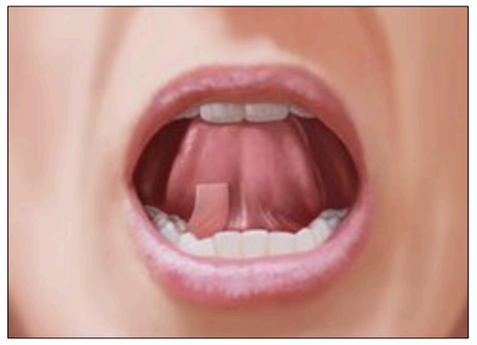
- ☐ I feel like yawning
- ☐ My nose is running
- ☐ I have goose bumps
- ☐ My muscles twitch
- ☐ My bones & muscles ache
- ☐ I have hot flashes
- ☐ I'm sweating
- ☐ I feel unable to sit still
- ☐ I am shaking
- ☐ I feel nauseous
- ☐ I feel like vomiting
- ☐ I have cramps in my stomach

Things NOT TO DO with Bup

DON'T use Bup when you are high—it will make you dope sick!
DON'T binge on alcohol or benzos (like Xanax ("sticks"), Klonopin, Valium, Ativan) while taking Bup–the combination could be dangerous.
DON'T use Bup if you are taking pain killers until you talk to your doctor.
DON'T swallow Bup – it gets into your body by melting under your tongue.

How to take Bup

Before taking Bup, drink some water.
Put Bup under your tongue. Do not swallow it!
Bup won't work if it's swallowed.
Don't eat or drink anything until the Bup has dissolved completely (at least 10 minutes).



Start with 4 mg. If you're not sure if your withdrawal is bad enough, you can cut the pill/film and take a very small dose like 1 or 2 mg.

If your symptoms are WORSE after taking Bup, stop and seek help from an addiction center. You can always come back to the ER.

If your symptoms are BETTER after taking Bup but you are still uncomfortable from withdrawal after 2 hours, you can take another 4 mg. You can take 4 mg every 2 hours until you are comfortable, maximum 24 mg/day.

On day #2, take 8 mg in the morning and 8 mg in the evening. On days 3, 4 and beyond, take 16 mg in the morning. You should be seeing a Buprenorphine doctor within 1 week. Return to the ER if you need to.

alternative initiation strategies

home initiation

prescription vs. dispense, instructions, followup

observe in ED

do serial cardiac enzymes if it will make you feel better

admit or observation pathway

diagnose cellulitis or pneumonia if it will make you feel better

come back when you're sicker

withdrawal-free bup initiation

withdrawal-free bup initiation

opioid withdrawal is hell on earth

microdosing

(scant data, lots of anecdote)

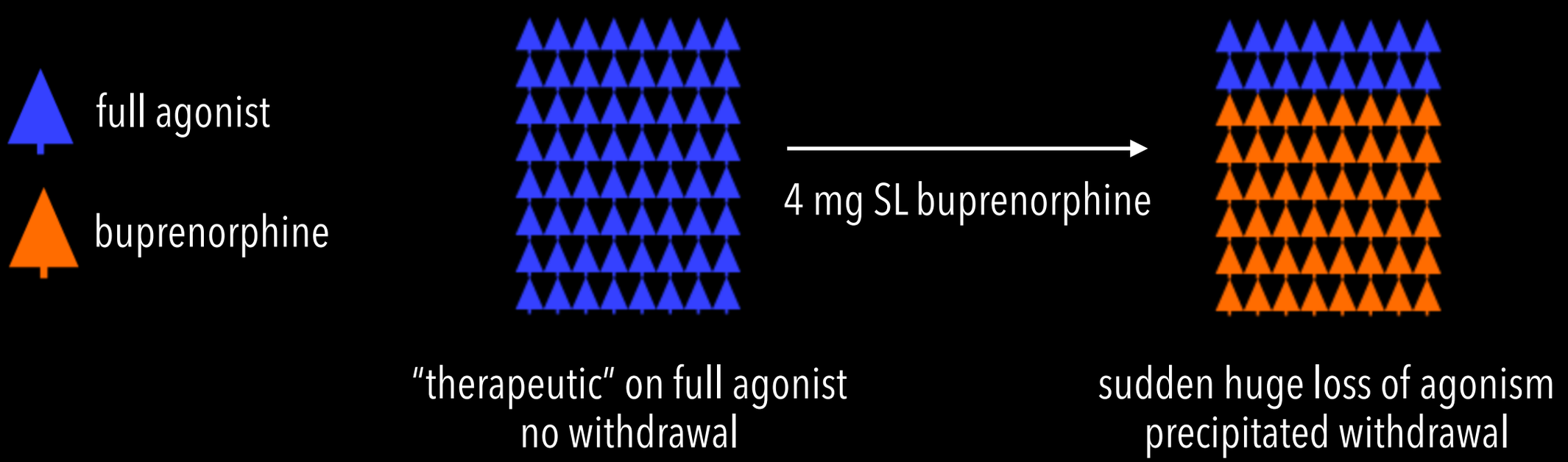
macrodosing

intentional precip

(zero data, scant anecdote)

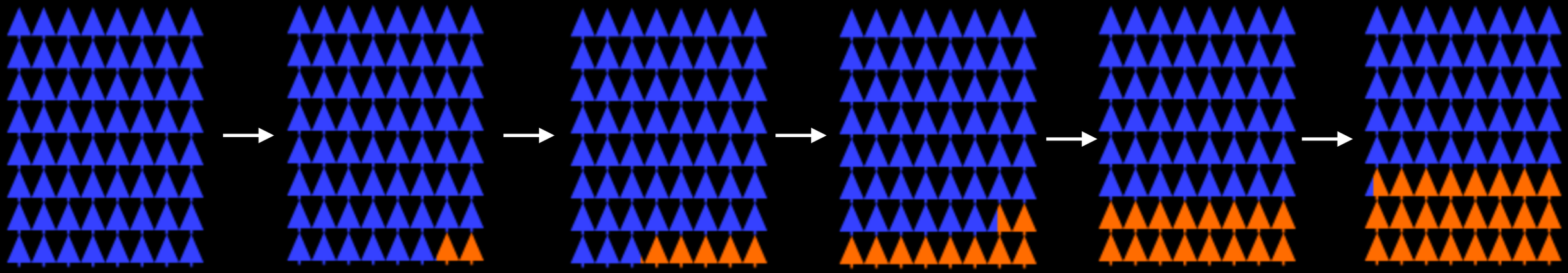
bup microdosing

transition from full agonists to bup
without a period of withdrawal



bup microdosing

once therapeutic dose of bup achieved
can discontinue full agonist
now patient therapeutic on bup
no withdrawal
can titrate up bup as needed to suppress cravings



Day 1
0.25 mg bup

Day 2
0.5 mg bup

Day 3
1 mg bup

Day 4
2 mg bup

Day 5
3 mg bup

continue full agonist

bup microdosing

takes time–most aggressive microdosing protocols are 3 days

the slower you go, the less likely you'll accidentally precipitate withdrawal but the longer the period to fail initiation

ongoing injection of street drugs is dangerous–if outpatient, consider prescription full agonist during microdosing initiation (DEA doesn't love this strategy)

bup microdosing

getting tiny doses of bup into people can be tricky

cutting buprenorphine strips or tabs into very small pieces
transdermal buprenorphine (for pain)
buccal bup (for pain) available in small doses
dilute intravenous buprenorphine
IV bup given sublingually or ingested
ingest sublingual bup to reduce absorbed dose
depot/extended-release buprenorphine

more relevant to inpatient or clinic-based bup initiation for now

bup microdosing

Withdrawal-Free Buprenorphine Initiation
with micro-dosing

Congratulations on initiating buprenorphine! Using micro-dosing, you can transition from your usual opioid (methadone, heroin, oxycontin, or any other opioid) to buprenorphine (Suboxone) **without getting dope sick**.

You will get a prescription for **2 mg buprenorphine strips.** Use tweezers and scissors to cut them into fourths (one fourth strip = 0.5 mg) or halves (one half strip = 1 mg) as needed.

CONTINUE TAKING YOUR FULL DOSE OF USUAL OPIOID UNTIL DAY #7

Day #1: 0.5 mg = one quarter strip ONCE
Day #2: 0.5 mg x 2 = one quarter strip TWICE PER DAY
Day #3: 1 mg x 2 = one half strip TWICE PER DAY
Day #4: 2.0 mg x 2 = one whole strip TWICE PER DAY
Day #5: 3 mg x 2 = one whole strip plus one half strip TWICE PER DAY
Day #6: 4 mg x 2= two whole strips TWICE PER DAY
Day #7: 6 mg x 2 = three whole strips TWICE PER DAY

Starting with Day #8: **Discontinue your usual opioid**.

Day #8: 8 mg x 2 = 4 whole strips TWICE PER DAY (or one 8 mg strip twice per day)

Make sure that you continue buprenorphine (starting with 8 mg twice per day, to be adjusted with your clinic prescriber) for day #8 and going forward.

If you have any trouble, return to the ER or call your buprenorphine prescriber.

two prescriptions:

1.
buprenorphine-naloxone 2 mg strips
1/4 to 6 strips daily, SL
according to microdosing schedule
dispense x 18 (eighteen) strips

2.
buprenorphine-naloxone 8 mg strips
1 strip SL bid
dispense x 48 (three weeks)
MDD: 16 mg

———————————————-

Day #1 - 1 strip
Day #2 - 1 strip
Day #3 - 1 strip
Day #4 - 2 strips
Day #5 - 3 strips
Day #6 - 4 strips
Day #7 - 6 strips
= 18 (eighteen) 2 mg strips
+ 16 (sixteen) 8 mg strips per week

more relevant to inpatient or clinic-based bup initiation for now

treatment of BPW

we don't know

complex patients
complex pharmacology
unknown drugs on board

classic treatment is non-opioids

clonidine, benzos, antiemetics, antipsychotics

emerging treatment

big dose of bup

generally safe–the ceiling effect

treatment of BPW*

bup 8 mg

↓

precipitated withdrawal (oops)

↓

bup 16 mg

↓

improved?

yes → great

↓ no

am I missing anything?

line, labs, monitor

↓

bup 16 mg SL vs. IV bup

↓

improved?

yes → great

↓ no

non-agonists

alcohol or benzodiazepine withdrawal, thyrotoxicosis, DKA, sepsis, ICH, etc

*scant evidence, YMMV

bup macrodosing

Ahmadi *et al. Trials* (2018) 19:675
https://doi.org/10.1186/s13063-018-3055-z

Trials

RESEARCH Open Access

Single high-dose buprenorphine for opioid craving during withdrawal

Jamshid Ahmadi[1*], Mina Sefidfard Jahromi[1], Dara Ghahremani[2] and Edythe D. London[2,3,4]

Abstract

Background: Opioid use disorder is one of the most prevalent addiction problems worldwide. Buprenorphine is used as a medication to treat this disorder, but in countries where buprenorphine is unavailable in combination with naloxone, diversion can be a problem if the medication is given outside a hospital setting.

Objective: The objective of this research is to evaluate the effect of a single, high dose of buprenorphine on craving in opioid-dependent patients over 5 days of abstinence from use of other opioids. The primary goal was to determine the safety and efficacy of buprenorphine during withdrawal in a hospital setting.

Methods: Ninety men who used opium, heroin, or prescribed opioids and met DSM-5 criteria for opioid use disorder (severe form) were randomized to three groups ($n = 30$ per group) to receive a single, sublingual dose of buprenorphine (32, 64, or 96 mg). The study was conducted in an inpatient psychiatric ward, with appropriate p d monitoring of respiratory and cardiovascular measures. Buprenorphine was administered when the pat in moderate opiate withdrawal, as indicated by the presence of four to five symptoms. A structured view was conducted, and urine toxicology testing was performed at baseline. Self-reports of craving e o ned at baseline and on each of the 5 days after buprenorphine administration.

Findings: Craving decreased from baseline in each of the three groups ($p < 0.0001$), with a significant interaction between group and time ($p < 0.038$), indicating that groups with higher doses of buprenorphine had greater reduction.

Conclusions: A single, high dose of buprenorphine can reduce craving during opioid withdrawal; additional studies with follow-up are warranted to evaluate safety.

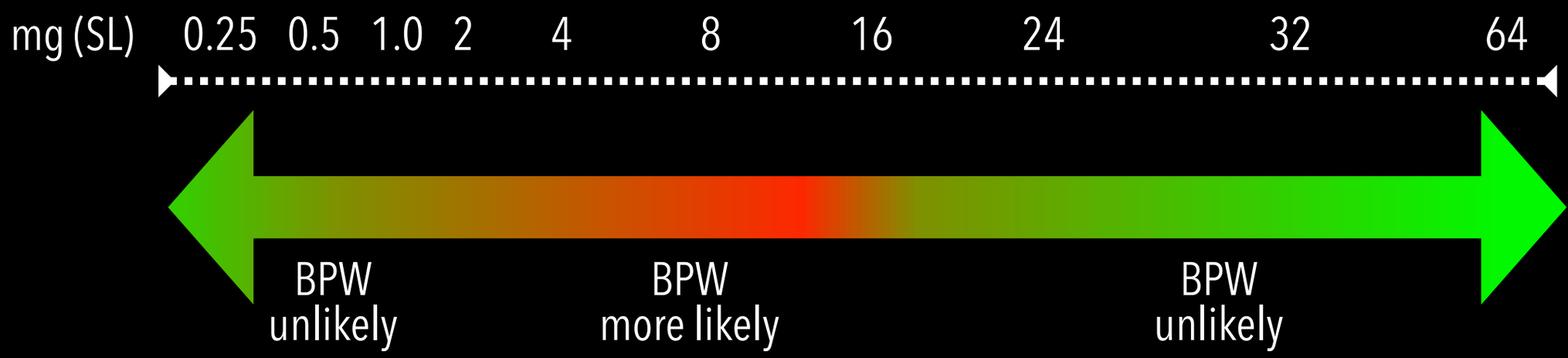
Keywords: Buprenorphine, Craving, Opioid dependence, Opioid withdrawal

bup macrodosing

Table 3 Craving scores (means and standard deviations) of the three groups

Group (Buprenorphine, mg) Day	32 $n = 30$	64 $n = 30$	96 $n = 30$
Baseline	7.23 ± 3.51	6.93 ± 3.54	7.56 ± 3.53
Day 1	4.46 ± 3.95	4.96 ± 2.90	4.00 ± 2.75
Day 2	2.56 ± 3.23	3.03 ± 2.23	1.00 ± 1.74
Day 3	1.70 ± 2.39	0.900 ± 1.37	0.366 ± 0.927
Day 4	1.23 ± 1.86	0.300 ± 0.749	0.233 ± 0.727
Day 5	0.700 ± 1.14	0.100 ± 0.402	0.00 ± 0.00

bup macrodosing



macrodose less likely to precipitate withdrawal

macrodose prolongs duration of action/protection

should we be initiating with doses of ≥32 mg?

buprenorphine for naloxone precipitated withdrawal

Postoverdose Initiation of Buprenorphine After Naloxone-Precipitated Withdrawal Is Encouraged as a Standard Practice in the California Bridge Network of Hospitals

To the Editor:

Recently, one of my patients described surviving a heroin overdose. After being found unconscious by

Contents lists available at ScienceDirect

American Journal of Emergency Medicine

journal homepage: www.elsevier.com/locate/ajem

Treatment of acute naloxone-precipitated opioid withdrawal with buprenorphine

Neeraj Chhabra [a,*], Steven E. Aks [b]

[a] Cook County Health, Department of Emergency Medicine, Division of Medical Toxicology, 1950 West Polk Street, 7th floor, cubicle 85, Chicago, IL 60612, United States
[b] Cook County Health, Department of Emergency Medicine, Division of Medical Toxicology, Chicago, IL, United States

buprenorphine for naloxone precipitated withdrawal

Buprenorphine Field Initiation of ReScue Treatment by Emergency Medical Services (Bupe FIRST EMS): A Case Series

Gerard G. Carroll, MD FAAEM EMT-P, Deena D. Wasserman, MD FAWM, Aman A. Shah, MD, Matthew S. Salzman, MD, Kaitlan E. Baston, MD MSc DFASAM, Rick A. Rohrbach, BSN CFRN CCRN-K MICP, Iris L. Jones, MA LPC, LCADC, Rachel Haroz, MD, FAACT

EMERGENCY MEDICAL SERVICES/ORIGINAL RESEARCH

Impact of Administering Buprenorphine to Overdose Survivors Using Emergency Medical Services

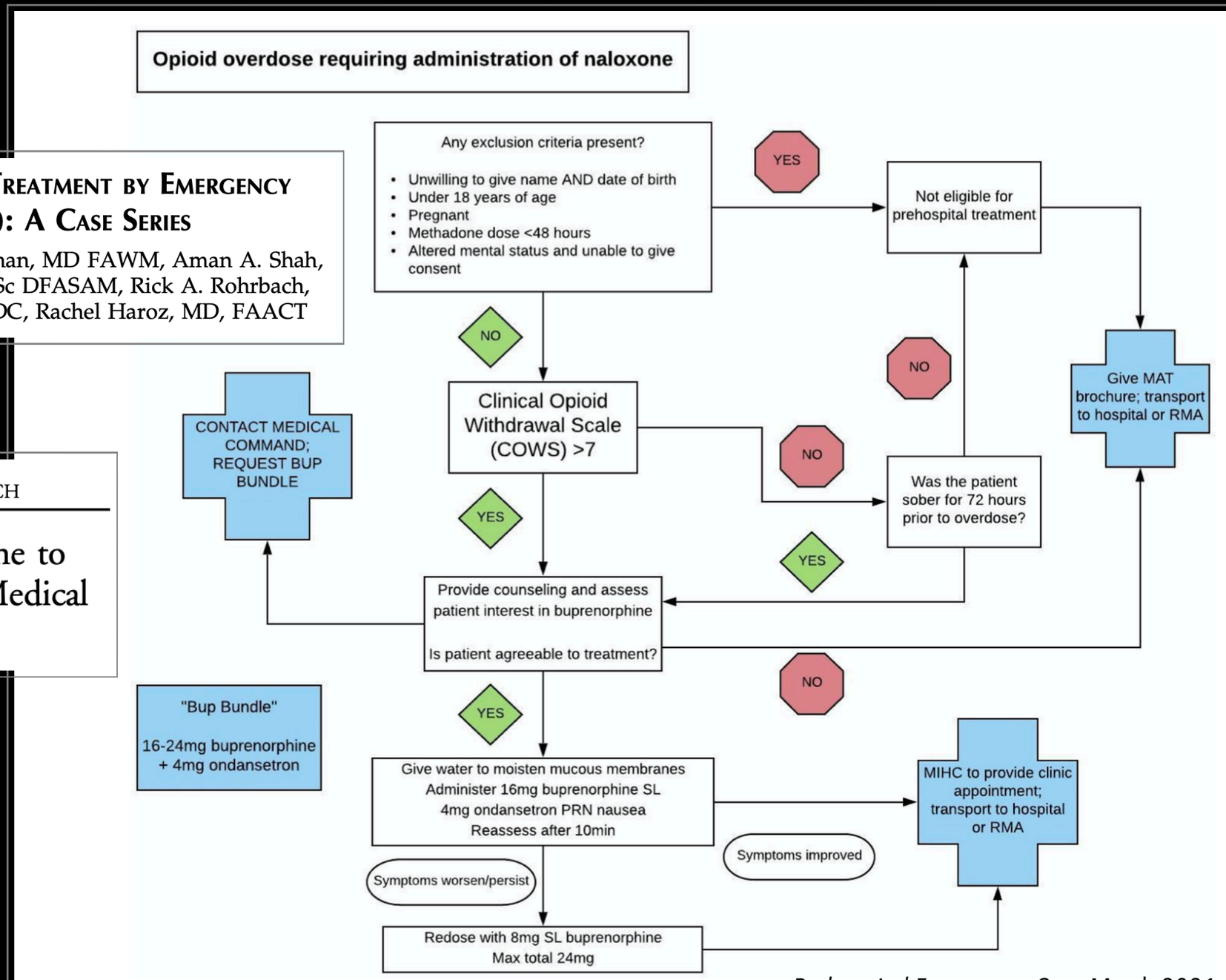
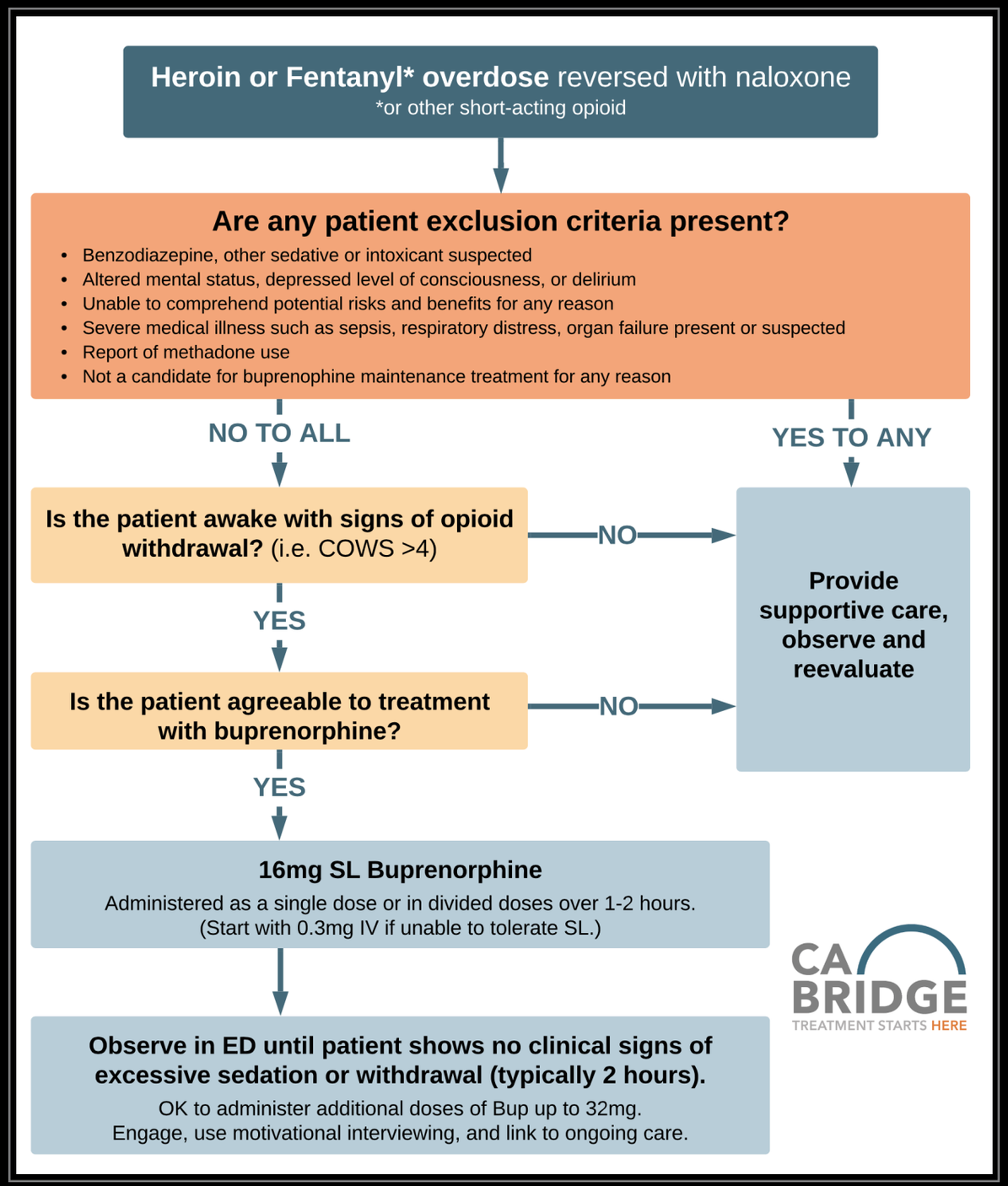


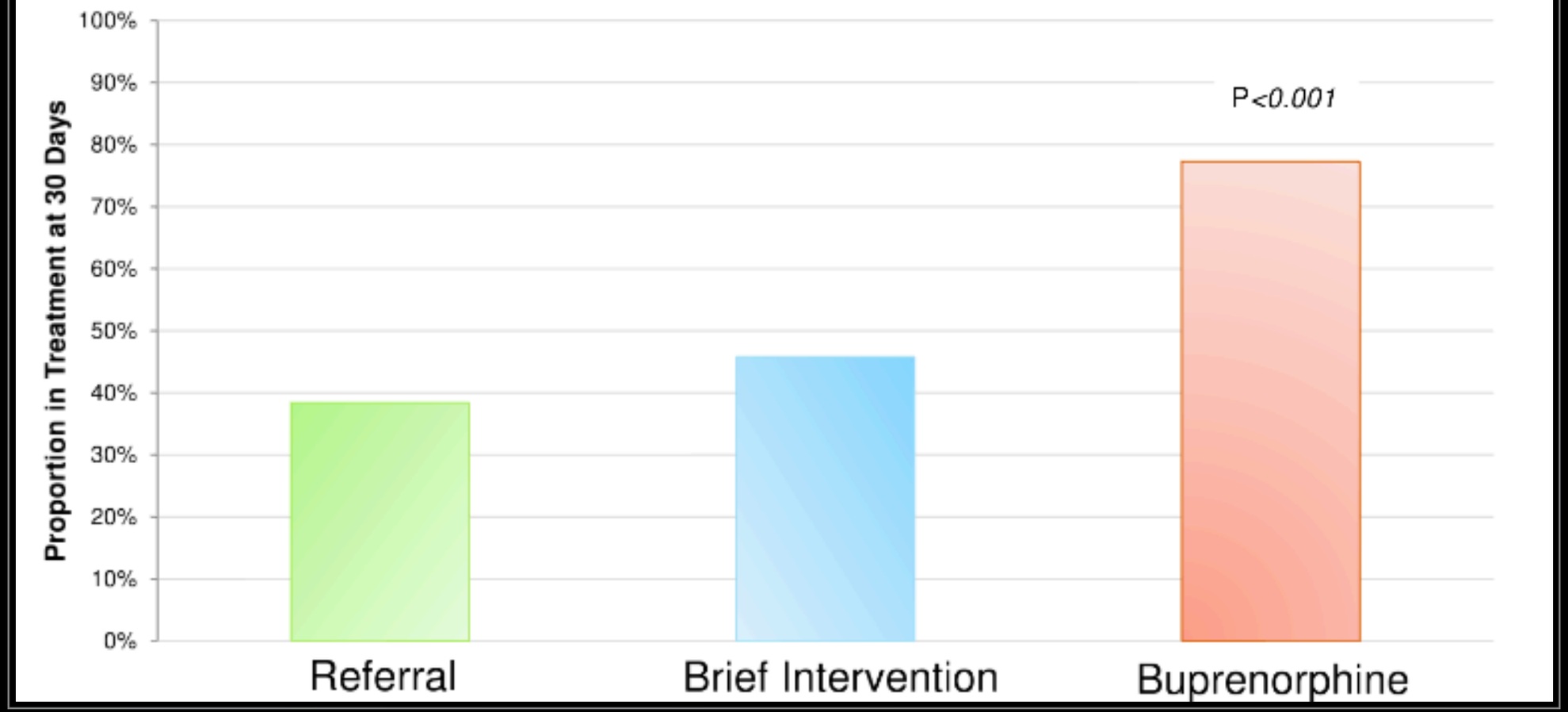
FIGURE 1. Bupe FIRST EMS Protocol.

Prehospital Emergency Care, March 2021

buprenorphine for naloxone precipitated withdrawal



Engaged in Treatment at 30-Days



D'Onofrio 2015

Buprenorphine treatment for opioid misuse should be available in emergency departments.

OUD ED Scenarios

Active withdrawal (did not receive naloxone) - ED bup

Opioid intoxicated - home initiation

Sober (not intoxicated, not in withdrawal, but will be) - home/ED/OBS

"Detoxed" (withdrawal symptoms over) - ED bup

Naloxone-precipitated withdrawal - High dose ED bup

Patient declines bup - do they misunderstand or are they not ready for recovery? harm reduction, open door policy

LOW THRESHOLD BUPRENORPHINE

I need help I'm dope sick I overdosed I have fevers I have cellulitis

I have pneumonia I'm selling sex and have an STI I'm homeless and cold

Opioid Use Disorder patient presents to the ED

Harm Reduction

take home naloxone
HIV, Hep C screening

referral to needle exchange
discuss safe drug use practices

A

B

C

D

E

ED Bup
ED Bup Rx

ED Bup

ED Bup Rx

ED Bup

patient unwilling/ unable to enter comprehensive addiction care

case management
persistence
patience

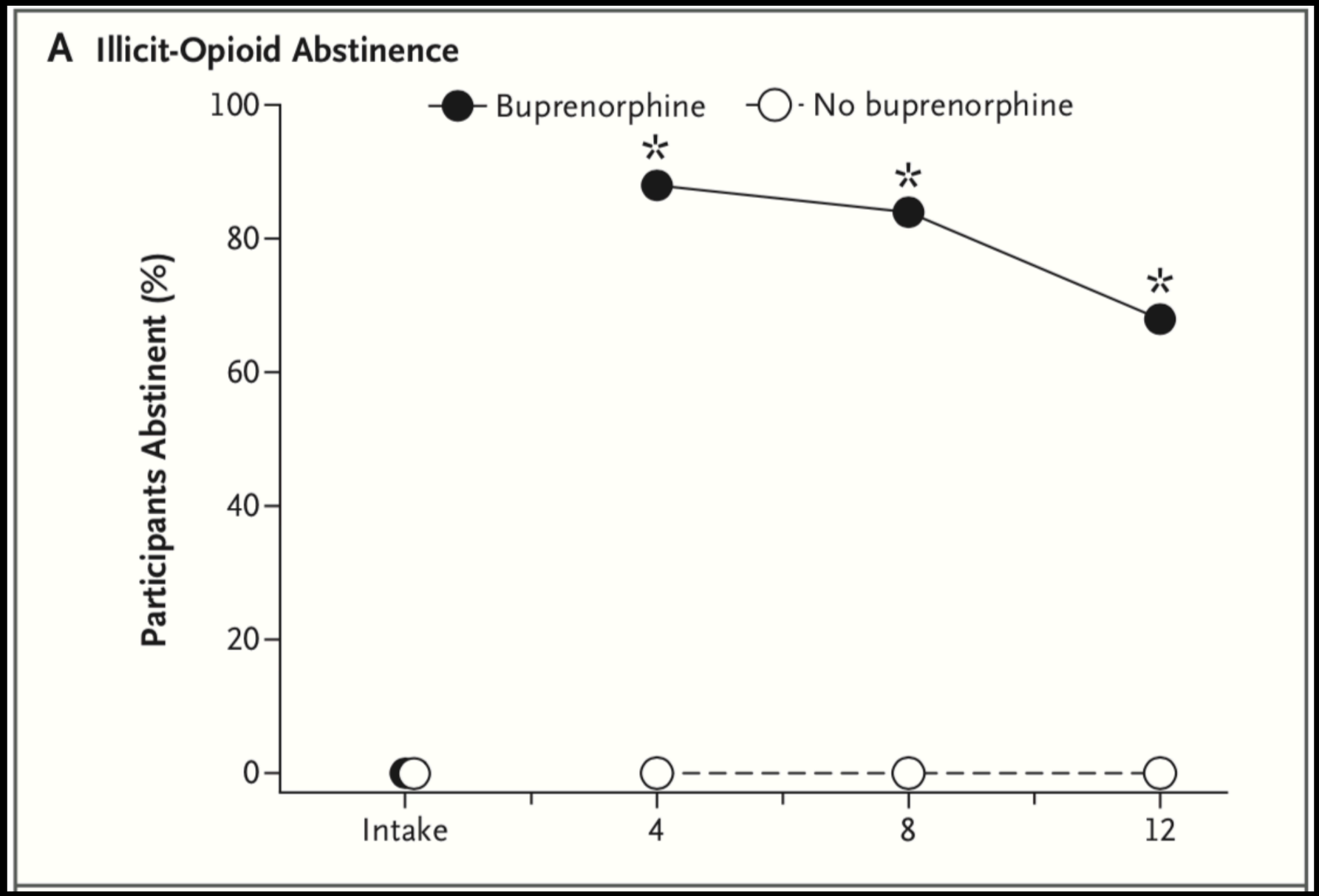
return to ED for bup

Comprehensive Addiction Care

The NEW ENGLAND JOURNAL of MEDICINE

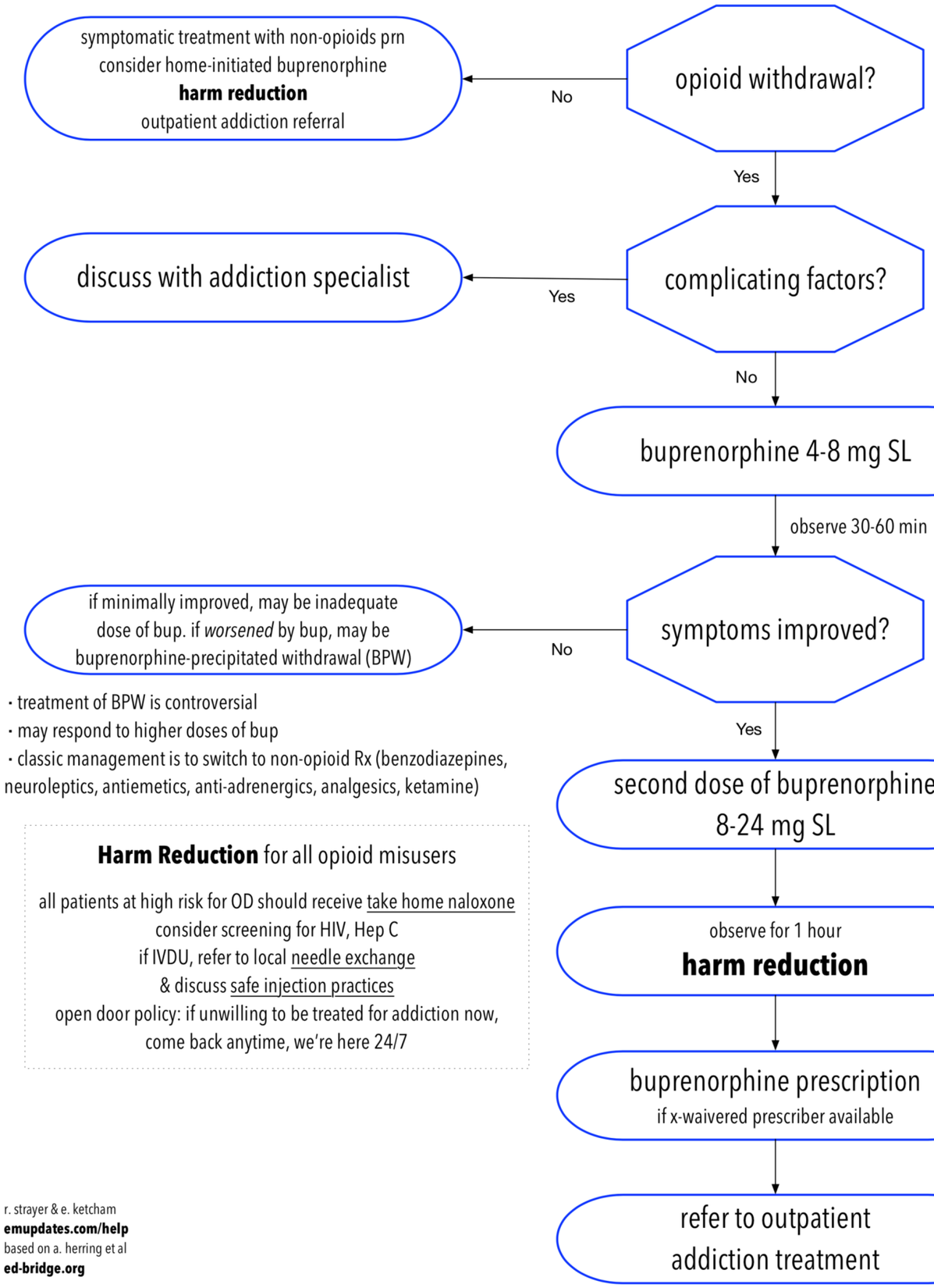
Interim Buprenorphine vs. Waiting List for Opioid Dependence

N ENGL J MED 375;25 NEJM.ORG DECEMBER 22, 2016



Sigmon 2016

Emergency Department Initiation of Buprenorphine for Opioid Use Disorder



if inadequate withdrawal, buprenorphine will precipitate withdrawal
score on clinical opiate withdrawal scale
COWS should be ≥ 8, the higher the better

severe medical disease or very intoxicated/altered (e.g. acutely ill, liver failure)
using methadone or extended-release opioid
naloxone-precipitated withdrawal
taking high dose prescription opioids daily

- the higher the daily dose of opioids the patient usually uses, and the more severe the withdrawal, the higher the initial dose of bup
- if borderline/inconsistent withdrawal symptoms, dose 2-4 mg every 1-2h
- if vomiting, may use 0.3 mg IV/IM every 30-60 min

- if symptoms not improved with 8 mg bup, patient may be in buprenorphine-precipitated withdrawal and effect of higher buprenorphine dose is uncertain
- bup can cause nausea - if primary symptom is nausea, treat with ondansetron 8 mg

- the bigger the initiation dose of buprenorphine, the longer the patient is protected from withdrawal, cravings, and street opioid overdose
- high dose (total dose of 16-32 mg in ED) preferred if patient not able to be seen by bup prescriber or fill prescription in next 12-24 hours
- do not initiate high dose if patient is heavy user of alcohol or benzodiazepines, medically complex, older age - for risk of respiratory depression

buprenorphine/naloxone 8/2 mg
1 tab/strip BID SL
dispense x 1 week

72 hour rule: patient may return to ED for up to 3 days
administer 16 mg SL on days 2 & 3

- treatment of BPW is controversial
- may respond to higher doses of bup
- classic management is to switch to non-opioid Rx (benzodiazepines, neuroleptics, antiemetics, anti-adrenergics, analgesics, ketamine)

Harm Reduction for all opioid misusers

all patients at high risk for OD should receive take home naloxone
consider screening for HIV, Hep C
if IVDU, refer to local needle exchange
& discuss safe injection practices
open door policy: if unwilling to be treated for addiction now, come back anytime, we're here 24/7

r. strayer & e. ketcham
emupdates.com/help
based on a. herring et al
ed-bridge.org

Maimonides ED Opioid Misuse Treatment Map

in withdrawal
desires treatment for opioid addiction

see emupdates.com/help for complete initiation pathway
exclusions from ED buprenorphine initiation
on methadone or extended-release opioids
on high dose (usually prescribed) opioids
very intoxicated (with other substances)
buprenorphine allergy

verifying adequate withdrawal is key
if inadequate withdrawal, buprenorphine may precipitate withdrawal
mdcalc.com/cows or your favorite resource
COWS should be ≥ 8, the higher the better

you do not need to be waivered to treat withdrawal with buprenorphine in the ED

buprenorphine 4-8 mg sublingual
the higher the COWS, the larger the bup dose
if unsure of withdrawal symptoms or borderline COWS, dose 2 mg q1h

observe in ED for 30-60 minutes
provide sandwich

optional testing during buprenorphine initiation
HCG, urine tox, BAL, LFTs, Hep C, HIV

unless patient will certainly get bup within 24h
second dose of bup: 8-24 mg

if waivered doc present, can d/c with prescription
consider **charity bup**: call social work to provide Rx at no cost to patient

advise on dangers of etoh/benzo use while on bup

refer to outpatient addiction care
the smaller the ED buprenorphine dose, the tighter the followup has to be, esp if no Rx
referral and discharge resources: emupdates.com/bupinbk
if administered or Rx bup, must dx OUD and document f/u plan

buprenorphine Rx

buprenorphine/naloxone 8/2 mg sublingual tabs
1 tab SL bid–dispense 14 tabs
bup patient info handout at emupdates.com/mat

in withdrawal
does not desire treatment

consider buprenorphine anyway
alternative: methadone 10 mg IM or 20 mg PO
non-opioids much less effective, do not address cravings:
clonidine, NSAID, antiemetic, antidiarrheal, haloperidol, ketamine

refer to HCC or alternative addiction center

harm reduction (see box)

Detox Is Dangerous
abstinence-based treatment is ineffective for most OUD patients, almost all relapse and relapse is very dangerous. Strongly encourage MAT, even though many patients/families/providers ask for rehab

Harm Reduction for all opioid misusers

Discuss overdose risk reduction strategies
Explain how to recognize and respond to overdose
Offer to screen for HIV, Hep C, pregnancy
Assess for shelter & food insecurity, comorbid medical & psychiatric dz
Page **Bridge Back To Life** #2285 (BBTL) to have peer recovery advocate dispatched to ED
emupdates.com/bupinbk for resources & guidance

all patients at high risk for OD should receive take home naloxone
high risk: daily use of ≥90 MMEs, opioid therapy > 3 months, current or past opioid misuse
very high risk: ↓ tolerance (just incarcerated, detoxed), prior OD, concurrent use of BZD/alcohol
NYC DOH RELAY program 24/7 **for all nonfatal overdose** patients
call 833-ED-RELAY, request a Wellness Advocate be dispatched to the ED
ED Pharmacist will dispense THN to **anyone**, registered or not

if IVDU, refer to local needle exchange [http://iduha.org/nyc-sep-map]
and encourage safe injection practices
Do you lick your needles?
Do you cut your heroin with sterile water?
Do you discard your cotton after every use?
Do you inject with other people around?
Do you do a tester shot to make sure a new batch isn't too strong?

open door policy: if unwilling to be treated for addiction now, come back anytime, we're here 24/7

questions/concerns/not sure how to proceed with a patient?
text strayer 610.308.0022

alternatively, **patient can return to ED** while awaiting followup: on days 2 and 3 dose 16 mg SL
x-waiver not required to dose in ED on days 2&3
however cannot continue beyond 3 days by law

not in withdrawal
desires treatment for opioid addiction

if waivered doc present, can prescribe buprenorphine for home initiation
emupdates.com/help for home initiation handout

alternatives: return to ED when withdrawing or hold in ED to await withdrawal

refer to Maimo MAT clinic or HCC

not in withdrawal
does not desire treatment

engage, encourage to move to treatment

refer to addiction care

Maimonides MAT Clinic
Refer using usual discharge clinic referral process
Mondays, 1p-4p
948 48th Street, 4th Floo
Between 9th & 10th avenue
(same bldg as MMC pharmacy)
MAT Clinic Patient Line:
718.283.2320
Discharge instructions:
emupdates.com/mat

Healthcare Choices Clinic
6209 16th Ave
Brooklyn, 11204
718.234.0073

These x-waivered attendings will Rx Buprenorphine for you:
Aghera, Bogoch, Chung, Cueva, Eng, Friedman, Haines, Harmouche, Khordipour, Kurbedin, Lamberta, Lee, Lobel, Luecker, Marshall, Mody, Naraghi, Nguyen, Odashima, Strayer, Turchiano, Wan, Weiner, Wood, Zimmerman

v7

bup/nalox vs. bup mono

buprenorphine + naloxone = Suboxone
conventional teaching: naloxone additive is inert unless injected (naloxone component intended only to prevent IV abuse)

however, bup/nalox still abused
though bup mono (Subutex) has a higher street value

and the naloxone component in bup/nalox causes usually mild but non-trivial withdrawal symptoms in a minority of patients who take it sublingually as intended

bup/nalox vs. bup mono

injecting bup is FAR SAFER than injecting a full agonist

how many people relapse from buprenorphine treatment because of the withdrawal symptoms they experience from the small amounts of naloxone they absorb sublingually?

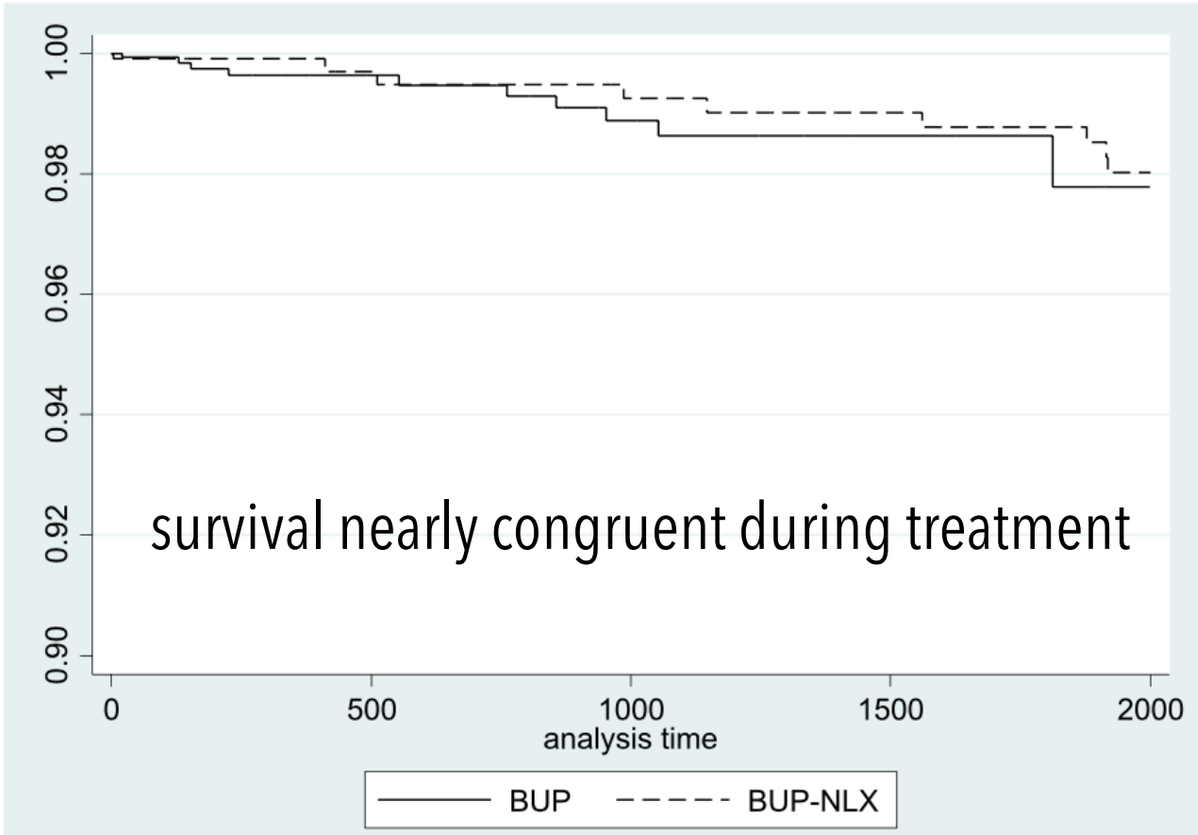
and the naloxone component in bup/nalox causes usually mild but non-trivial withdrawal symptoms in a minority of patients who take it sublingually as intended

bup/nalox vs. bup mono

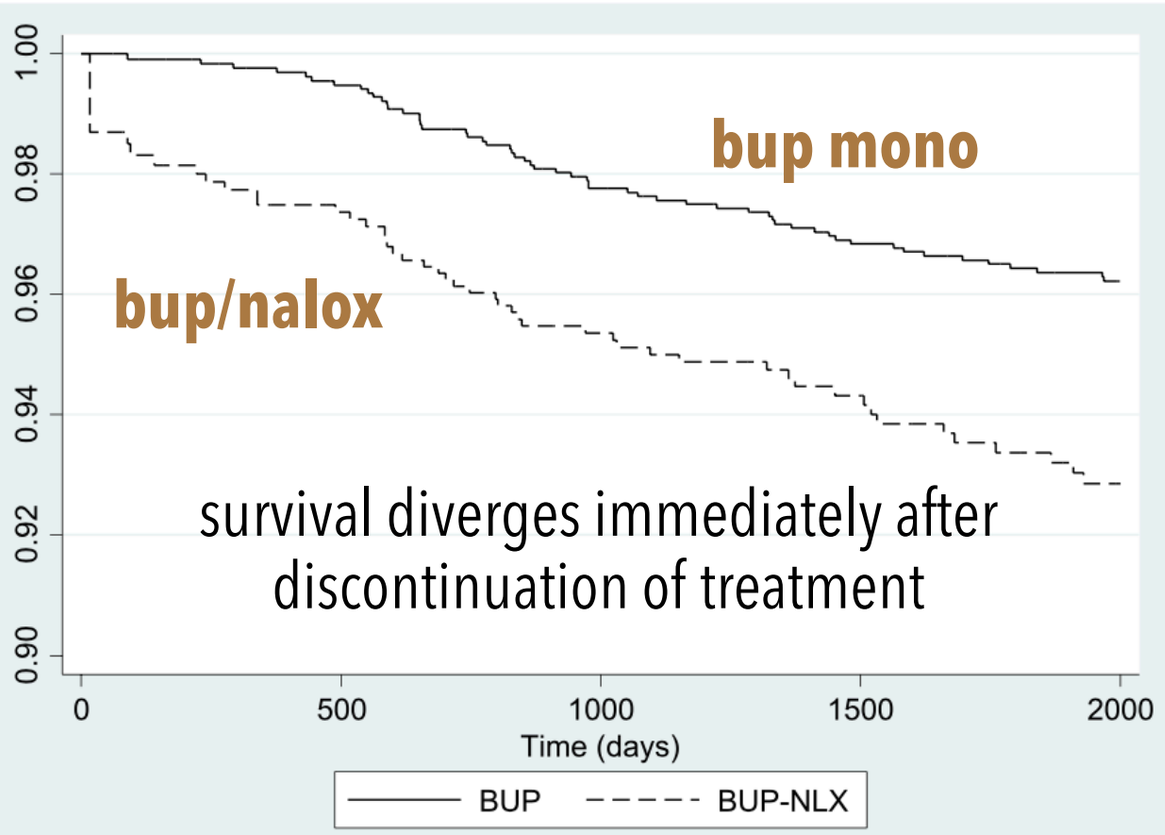
and bup/nalox associated with worse outcomes vs. mono

does naloxone component accelerate loss of opioid tolerance?

survival curves during treatment



survival curves after treatment



Kelty 2018, *J Psychopharm*

bup/nalox vs. bup mono

and bup mono is cheaper

OPINION ARTICLE

Front. Psychiatry, 11 September 2020 | https://doi.org/10.3389/fpsyt.2020.549272

Reconsidering the Usefulness of Adding Naloxone to Buprenorphine

Christopher K. Blazes[1] **and** **Jonathan D. Morrow**[1,2*]

[1]Department of Psychiatry, University of Michigan, Ann Arbor, MI, United States
[2]Neuroscience Program, University of Michigan, Ann Arbor, MI, United States

detox is dangerous
counseling is unnecessary
OUD treatment = bup

and we are the right
providers to do it

"The history of medicine is, in part, the history of physicians stretching the scope of their practice to answer the pressing needs of their times."

emupdates@gmail.com

Rapoport & Rowley, *NEJM*, 2017

Julie 43F presents to ED with severe cellulitis of the arm and fever, she reports daily intravenous heroin use. While being worked up, develops vomiting and diarrhea, says she is dope sick. Expresses interest in recovery, wishes to stop using street drugs.

Sujin 43F presents with request for heroin detox. She has been injecting heroin intravenously for many years; her best friend just died of an overdose and now she wants to "come clean." Her last heroin use was 3 hours ago; she has no medical or psychiatric complaints.

Alex 27M presents to your resuscitation zone after being found unresponsive and cyanotic with a heroin needle in his arm. He was bagged by EMS during transport but is now breathing on his own at a rate of 9/minute, saturating well on room air. Minimally responsive to pain.

Edward 27M presents to your resuscitation zone after being found unresponsive and cyanotic with a heroin needle in his arm. He received 2 mg intravenous naloxone by EMS and is now agitated and requests to be discharged, expresses interest in recovery and wishes to stop using street drugs.

François 27M presents to your resuscitation zone after being found unresponsive and cyanotic with a heroin needle in his arm. He received 2 mg intravenous naloxone by EMS and is now agitated and requests to be discharged, does not wish to stop using street drugs, declines buprenorphine.

Michelle 54F with chronic low back pain, takes 80 mg oxycontin per day, presents with severe low back pain, says her home meds aren't working.

Pauline 38F with a history of gastroparesis presents by EMS with severe abdominal pain, similar to prior episodes of gastroparesis, is screaming in pain. Denies any daily medications. Reports anaphylactic allergic reactions to acetaminophen, ibuprofen, ketorolac, haloperidol, and morphine.

Leslie 38F no PMH or substance history fell off a bicycle, suffering an ankle fracture that will be managed non-operatively. She is being discharged and asks you how she is going to manage her pain for the next few days.

Leonard 38M presents at 2am requesting his usual dose of 160 mg methadone; says he was unable to make it to his clinic today.

Mordechai 38M presents with police, was just apprehended and is going to be taken to county jail. Says he takes 160 mg methadone per day and is starting to withdraw. He looks well and has normal vitals.

Victor 38M presents with corrections officers from jail, developed vomiting and diarrhea in jail and reports that he takes 160 mg methadone per day, last dose 3 days ago (he has been incarcerated for 3 days). Is unwell appearing, has features of severe OWS.

Amy 49F is picked up on the street after a concerned citizen called EMS as she was lying unconscious next to two empty vodka bottles. She is arousable with normal vitals but too intoxicated to participate in an interview.

Sven 58M presents with corrections officers from jail after a seizure, is known to drink heavily and regularly. He is agitated and disoriented, with BP 220/140 and HR 160, diaphoretic, and very ill appearing.

Maggie 33F has frequent ED presentations for agitation in the context of alcohol intoxication. She presents with EMS and police after being thrown out of a bar and attacking the bouncer with a beer bottle. She is obviously intoxicated and is being physically restrained while she curses and spits at those near her.

Walit 48M presents with his wife for "detox." He sits on the stretcher quietly while his wife reports that he has been drinking heavily for many years, now has lost his job and most of his friends to drinking and if he doesn't make a change is going to soon be without a wife or home.

Lisetta 68F presents with shortness of breath, cough, wheezing. Has been admitted for COPD four times in the past two years. Today is moderately dyspneic but likely can be managed as an outpatient after usual treatment. After an hour in the department she asks if she can go outside to smoke a cigarette.

Billy 28M presents from a nightclub, surrounded by police and paramedics, thrashing violently against handcuffs, completely incoherent, sweaty, struggling aggressively without seeming to tire. His companion says that they were just trying to have a great evening but he took too many pills.

dependence

buprenorphine

decriminalization

medicalized

steady supply

stability

freedom from addiction harms

escalation

withdrawal often interpreted as pain

criminalized

unstable supply

preoccupation with next dose

withdrawal & binging

cycling of highs & lows

emotional & physical pain

likely unrevealed — **addiction** — likely revealed

acquisition harms: stealing, lying, selling drugs/sex, dangerous drug deals

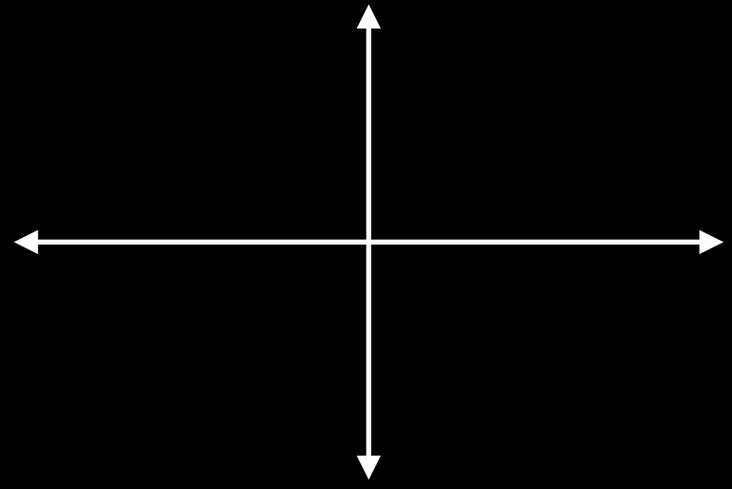
injection harms: HIV/Hep C, endocarditis, cellulitis

street drug harms: overdose, unknown toxic effects of unknown compounds

Pharmaco-Bio-Psycho-Social Factors in Addiction

Pharmacology
Prescribed drugs
Non-prescribed drugs
Access to these drugs
Physiologic dependence

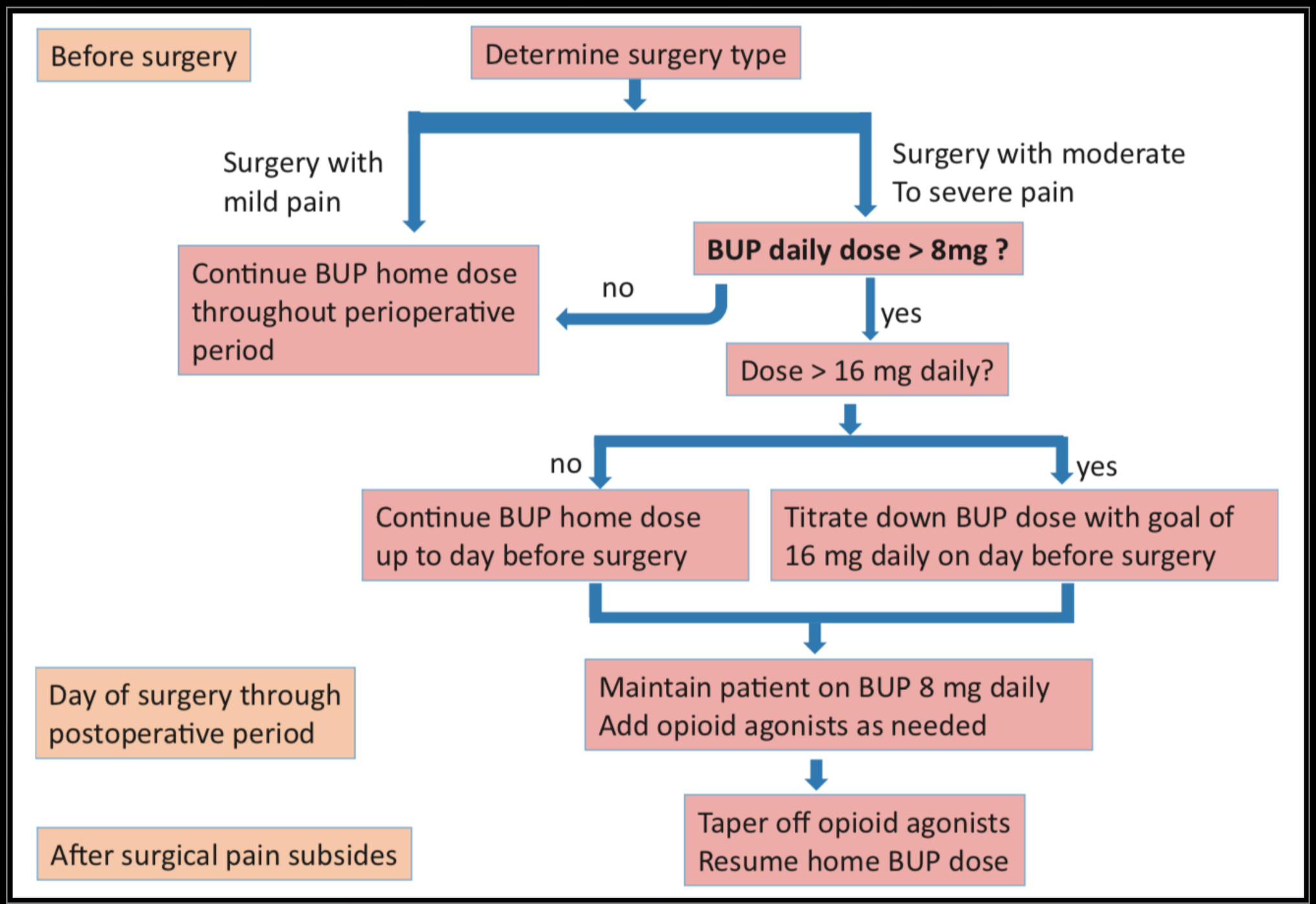
Social Environment
Home
Support network
(friends, family)
Job/income



Biology
Genetic predispositions
Medical disease states
Disabilities

Psychology
Mood/self esteem
Thought disorders
Coping skills
Trauma

do not stop buprenorphine perioperatively



Quaye 2018

buprenorphine for acute pain in opioid naive patients

long acting

sublingual (or IV/IM)

safer in toxicity than full agonists

less euphoric - ?less likely to lead to long term use

less abuse prone, diversion less of a concern

dosing all over the map

Randomised trial comparing buprenorphine and diamorphine for chest pain in suspected myocardial infarction

M J HAYES, A R FRASER, J R HAMPTON

British Medical Journal, 1979, **2**, 300-302

Summary and conclusions

Buprenorphine, a new powerful analgesic agent, was used to treat chest pain in patients with suspected myocardial infarction. Initial studies showed no significant changes in systemic or pulmonary artery blood pressure or in heart rate after intravenous buprenorphine. Sublingual buprenorphine also appeared effective in relieving pain, but its onset of action was considerably delayed compared with the intravenous route. A randomised double-blind controlled trial of equivalent doses of buprenorphine and diamorphine showed no significant difference between the drugs in terms of pain relief and duration of action. The occurrence of nausea, vomiting, and other side effects was similar in the two groups. The onset of action of buprenorphine was slightly but significantly slower than that of diamorphine.

Since buprenorphine seems to be comparable with diamorphine in action and is not a controlled drug, it may prove useful in both general and hospital practice.

Buprenorphine (Temgesic, Reckitt & Colman) is a synthetic compound derived from thebaine, which has been found effective in relieving postoperative pain.[2] It has recently been released as a non-controlled drug. We describe here a study on the haemodynamic effects of buprenorphine in patients with myocardial infarction, a comparison of the action of intravenous and sublingual routes of administration, and also a double-blind controlled study comparing intravenous buprenorphine and diamorphine in the relief of chest pain due to suspected myocardial infarction.

Patients and methods

Three studies were performed.

Study 1—Haemodynamic studies were performed on an initial 10 patients with myocardial infarction proved on electrocardiography (ECG). All had received diamorphine previously but then required further analgesia for recurrent pain. The pulmonary artery pressure was recorded continuously before and after an intravenous injection of 0·3 mg buprenorphine, by means of a 3 F gauge polyethylene catheter inserted percutaneously via an antecubital vein. Cuff measurements of the systemic blood pressure were made at defined intervals. The ECG was monitored continuously and measurements of heart rate obtained from the ECG.

buprenorphine for acute pain in opioid naive patients

long acting

sublingual (or IV/IM)

safer in toxicity than full agonists

less euphoric - ?less likely to lead to long term use

less abuse prone, diversion less of a concern

antihyperalgesic, not immunosuppressive, does not cause hypogonadism, safe in renal failure, safer than alternatives in hepatic failure, no effect on QT, few drug interactions, less constipating, cheap

buprenorphine for acute pain in opioid naive patients

long acting

sublingual (or IV/IM)

safer in toxicity than full agonists

less euphoric - ?less likely to lead to long term use

less abuse prone, diversion less of a concern

dosing all over the map

precipitated withdrawal, interferes with later full agonist use

benefits over alternatives for ED administration unconvincing

benefits over alternatives for discharge uncertain

Elements of Comprehensive Addiction Care

MAT induction and dose maintenance
Linkage with peer recovery advocate
Individual / group counseling
Psychiatric care
Assistance with social services
Management of coincident medical problems

"we don't want to be a suboxone clinic"

EDs that have started bup programs have not seen significant bup abuse

bup is not nearly as abuse prone as full agonists

patient visits may **decrease** - these patients are coming to the ED anyway

non-prescribed bup exposure potentiates successful treatment

OD is basically safe (though not entirely)

even diversion may not be a bad thing, in an era of superfentanyls

high dose bup initiation: prescription less important

Yale (D'Onofrio) EDIB Protocol

ED-Initiated Buprenorphine

Diagnosis of Moderate to Severe Opioid Use Disorder

Assess for opioid type and last use

Patients taking methadone may have withdrawal reactions to buprenorphine up to 72 hours after last use

Consider consultation before starting buprenorphine in these patients

COWS

(0-7) none - mild withdrawl

Dosing:
None in ED

Waivered provider able to prescribe buprenorphine?

YES

Unobserved buprenorphine induction and referral for ongoing treatment

NO

Referral for ongoing treatment

(≥8) mild - severe withdrawl

Dosing:
4-8mg SL*

Observe for 45-60 min
No adverse reaction

If initial dose 4mg SL repeat 4mg SL for total 8mg

Observe **

Waivered provider able to prescribe buprenorphine?

YES

Prescription
16mg dosing for each day until appointment for ongoing treatment

NO

Consider return to the ED for 2 days of 16mg dosing (72-hour rule)***
Referral for ongoing treatment

All Patients Receive:
-Brief Intervention
-Overdose Education
-Naloxone Distribution

Notes:

***Clinical Opioid Withdrawal Scale (COWS) ≥ 13** (Moderate-Severe) consider starting with 8 mg buprenorphine or buprenorphine/naloxone SL

** Patient remains in moderate withdrawal may consider adding additional 4mg and observation for 60 minutes

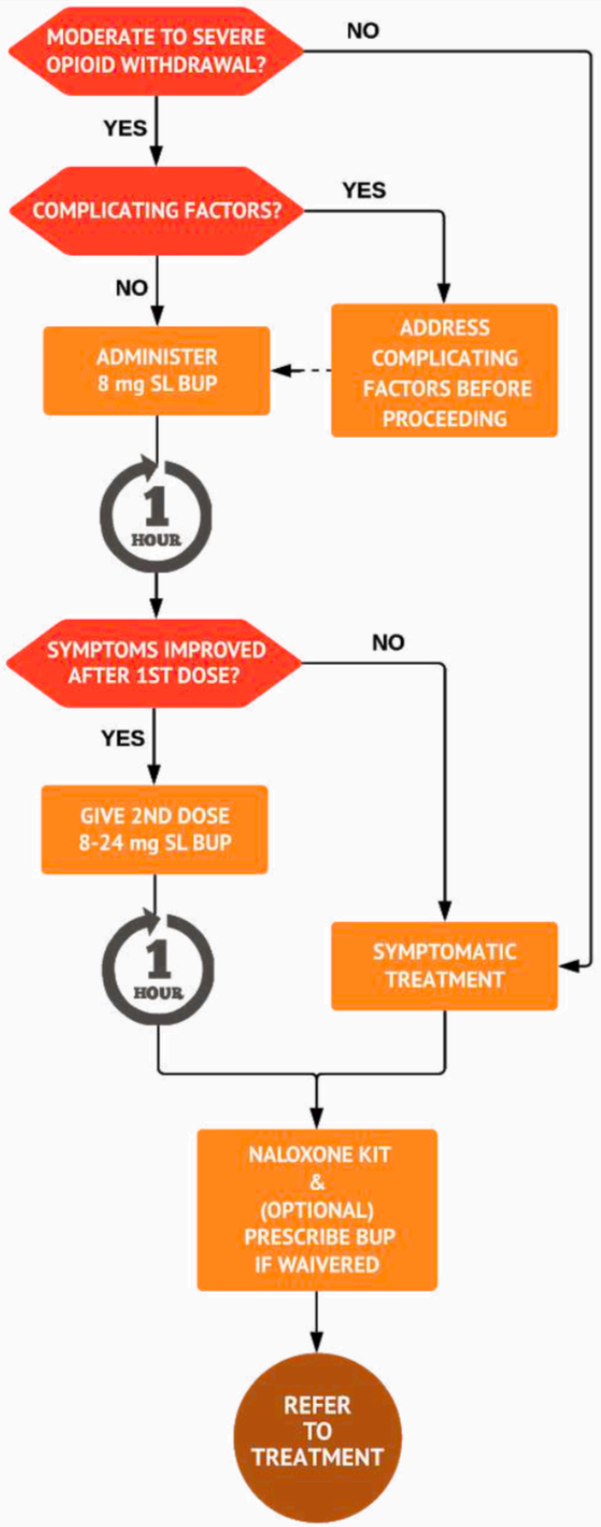
***Addiction Specialists may consider dosing in the ED (total of 24-32mg) if patient will not have access to buprenorphine >24 hours.

Warm hand-offs with specific time & date to opioid treatment providers/ programs within 24-72 hours whenever possible

All patients should be educated regarding dangers of benzodiazepine and alcohol co-use

Ancillary medication treatments with buprenorphine induction are not needed

Highland (Herring) EDIB Protocol



MODERATE TO SEVERE OPIOID WITHDRAWAL

- Use clinical judgement to determine moderate to severe withdrawal.
- If uncertain, use the Clinical Opioid Withdrawal Scale (COWS)
- If using COWS, the score should be ≥ 8 or ≥ 6 with at least one objective sign of withdrawal
- Document: which opioid used, time of last use

COMPLICATING FACTORS

Identify and manage complicating factors prior to proceeding.
The only absolute contraindication is allergy to buprenorphine.

Refer to Buprenorphine Guide before dosing buprenorphine for:

- Clinical suspicion of acute liver failure
- ≥ 20 weeks pregnant
- Intoxicated or altered
- Withdrawal precipitated by naloxone
- Taking methadone or long acting opioid
- Chronic pain patients taking prescribed opioids
- Withdrawal symptoms are inconsistent or borderline (COWS of 6-8), or opioid use within 12 hours; consider beginning with a low dose (2-4 mg SL) and titrating every 1-2 hours

PARENTERAL DOSING

- Use if unable to take sublingual (SL)
- Start with 0.3 mg IV/IM buprenorphine; may repeat as needed; switch to SL when tolerated

PRECIPITATED WITHDRAWAL

- Buprenorphine can cause precipitated withdrawal if too large a dose is given too soon after the last opioid use
- The longer the time since last opioid use (> 24 hours) and the more severe the withdrawal symptoms (COWS ≥ 13) the better the response to initial dosing
- Only patients with objective improvement in withdrawal after the 1st dose should receive subsequent dosing
- Worsening after buprenorphine is likely precipitated withdrawal; no further buprenorphine should be administered in the ED; switch to symptomatic treatment

SYMPTOMATIC TREATMENT

- Supportive medications such as clonidine, gabapentin, metoclopramide, low-dose ketamine, acetaminophen, NSAIDs

LOWER TOTAL DOSE OPTION (16 mg)

- Possible lower risk of sedation or precipitated withdrawal
- Some patients will go back into withdrawal in less than 12 hours increasing risk of early dropout.
- Buprenorphine prescription or next day follow-up should be available

HIGHER TOTAL DOSE OPTION (24-32 mg)

- Increased magnitude and duration of opioid blockade
- More complete treatment of withdrawal in heavy users
- May suppress craving and protect against overdose (opioid blockade) for 2 days or more
- Use with caution in medically complex patients, older patients, and patients using other sedatives such as alcohol or benzodiazepines

RE-EVALUATION TIME INTERVALS

- The time to SL buprenorphine onset is typically 15 minutes and peak clinical effect is typically within 1 hour
- Re-evaluate patient 1 hour after buprenorphine doses
- Observe for 1 hour after the final dose before discharge

DEA 72 HOUR RULE

- Patients may return to the ED for up to 3 days in a row for repeat doses
- At each visit administer 16 mg SL buprenorphine

FOLLOW-UP

- Goal: follow-up treatment available within 3 days

Harm Reduction for all opioid misusers

Discuss overdose risk reduction strategies

Explain how to recognize and respond to overdose

Offer to screen for HIV, Hep C, pregnancy

Assess for shelter & food insecurity, comorbid medical & psychiatric dz

Page **Bridge Back To Life** #2285 (BBTL) to have peer recovery advocate dispatched to ED

emupdates.com/bupinbk for resources & guidance

all patients at high risk for OD should receive take home naloxone

high risk: daily use of ≥90 MMEs, opioid therapy > 3 months, current or past opioid misuse

very high risk: ↓ tolerance (just incarcerated, detoxed), prior OD, concurrent use of BZD/alcohol

NYC DOH RELAY program 24/7 **for all nonfatal overdose** patients

call 833-ED-RELAY, request a Wellness Advocate be dispatched to the ED

ED Pharmacist will dispense THN to **anyone**, registered or not

if IVDU, refer to local needle exchange [http://iduha.org/nyc-sep-map]

and encourage safe injection practices

Do you lick your needles?

Do you cut your heroin with sterile water?

Do you discard your cotton after every use?

Do you inject with other people around?

Do you do a tester shot to make sure a new batch isn't too strong?

open door policy: if unwilling to be treated for addiction now, come back anytime, we're here 24/7