Emergency Care for Adolescent Substance Use Part 2

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June 22, 2023

treatME
MMA Center for Quality Improvement / Maine Chapter, AAP

Opioid Response Network

DayOne
A better tomorrow starts today.

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Working with communities.

- The SAMHSA-funded *Opioid Response Network (ORN)* assists states, organizations and individuals by providing the resources and technical assistance they need locally to address the opioid crisis and stimulant use.
- Technical assistance is available to support the evidence-based prevention, treatment and recovery of opioid use disorders and stimulant use disorders.

Funding for this initiative was made possible (in part) by grant no. 1H79TI083343 from SAMHSA. The views expressed in written conference materials or publications and by speakers and moderators do not necessarily reflect the official policies of the Department of Health and Human Services; nor does mention of trade names, commercial practices, or organizations imply endorsement by the U.S. Government.

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Working with communities.

- The *Opioid Response Network (ORN)* provides local, experienced consultants in prevention, treatment and recovery to communities and organizations to help address this opioid crisis and stimulant use.
- *ORN* accepts requests for education and training.
- Each state/territory has a designated team, led by a regional Technology Transfer Specialist (TTS), who is an expert in implementing evidence-based practices.

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Contact the Opioid Response Network

- To ask questions or submit a request for technical assistance:
  - Visit www.OpioidResponseNetwork.org
  - Email orn@aaap.org
  - Call 401-270-5900

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Disclosures

I have no financial conflicts of interest to disclose

I am an emergency physician, not a pediatrician

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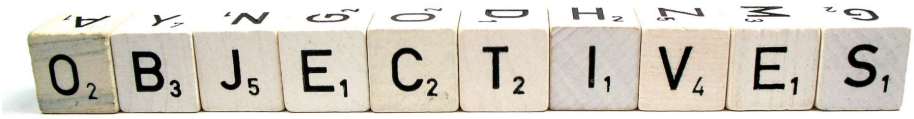

1. Identify clinical scenarios requiring emergency department treatment and management
2. Describe emergency department screening, harm reduction, treatment initiation, and treatment linkage for adolescents with substance use disorders
3. Understand how to best advocate for your adolescent patients with substance use disorders who have acute care needs
4. Discuss clinical management of common substance use-related emergency department visits

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Outline

1. Background — summary Part I
2. ED approach to substance use disorders
3. ED Cases

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Substance Use & Addiction

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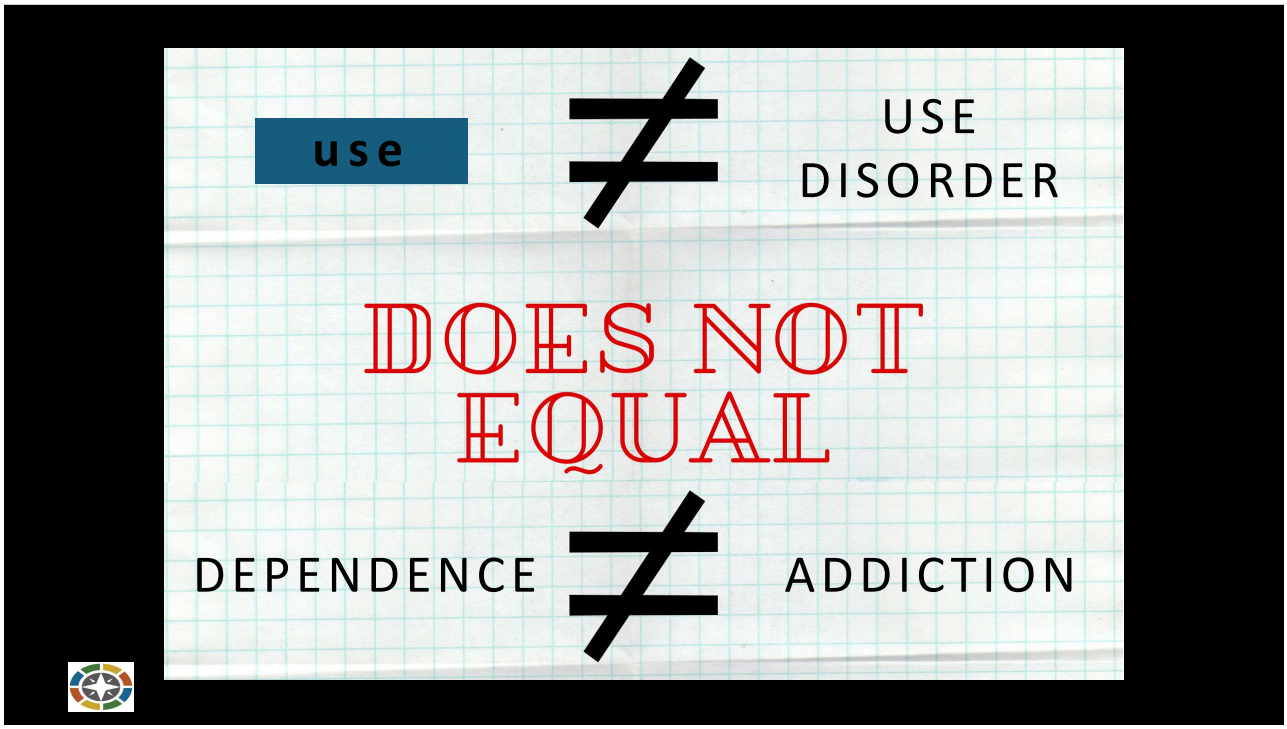

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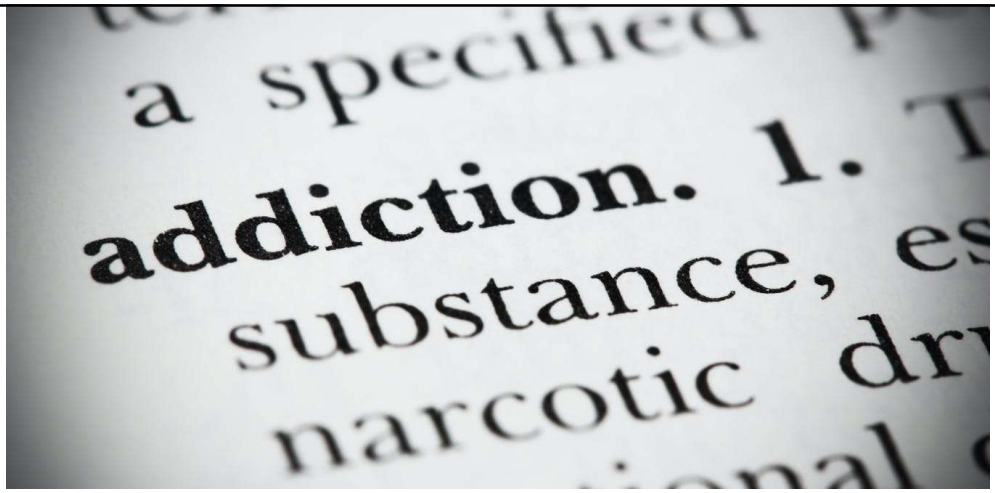

A treatable, chronic medical disease involving complex interactions among brain circuits, genetics, the environment, and an individual's life experiences. People with addiction use substances or engage in behaviors that become compulsive and often continue despite harmful consequences.

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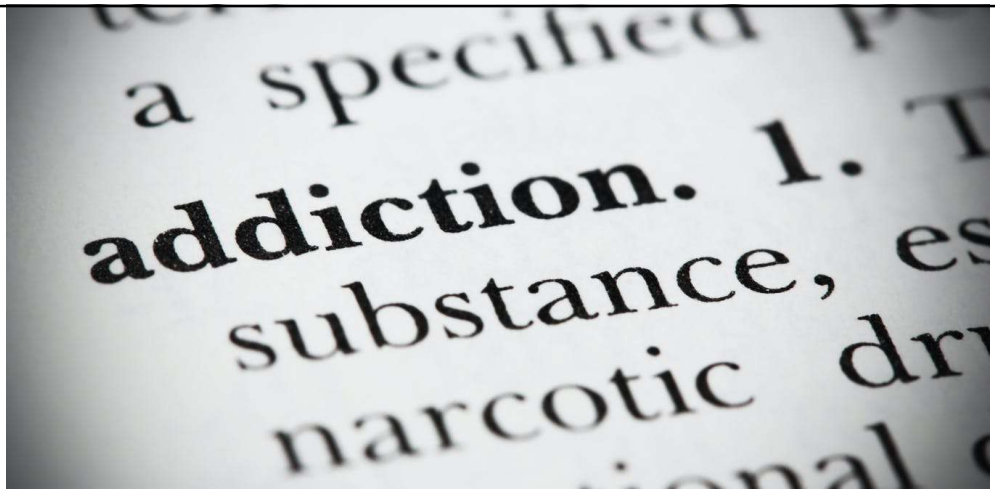

Prevention efforts and treatment approaches for addiction are generally as successful as those for other chronic diseases.

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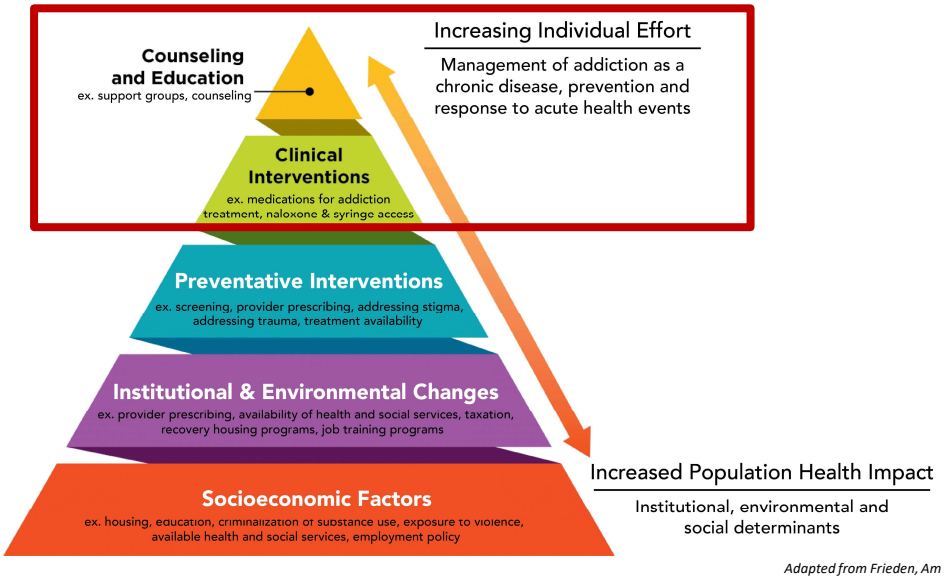
Health Impact Pyramid



Adapted from Frieden, Am J Public Health, 2010

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Emergency Department Care

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Time sensitive treatment and stabilization

Acute Diagnostic Center

Healthcare Access and Treatment Linkage

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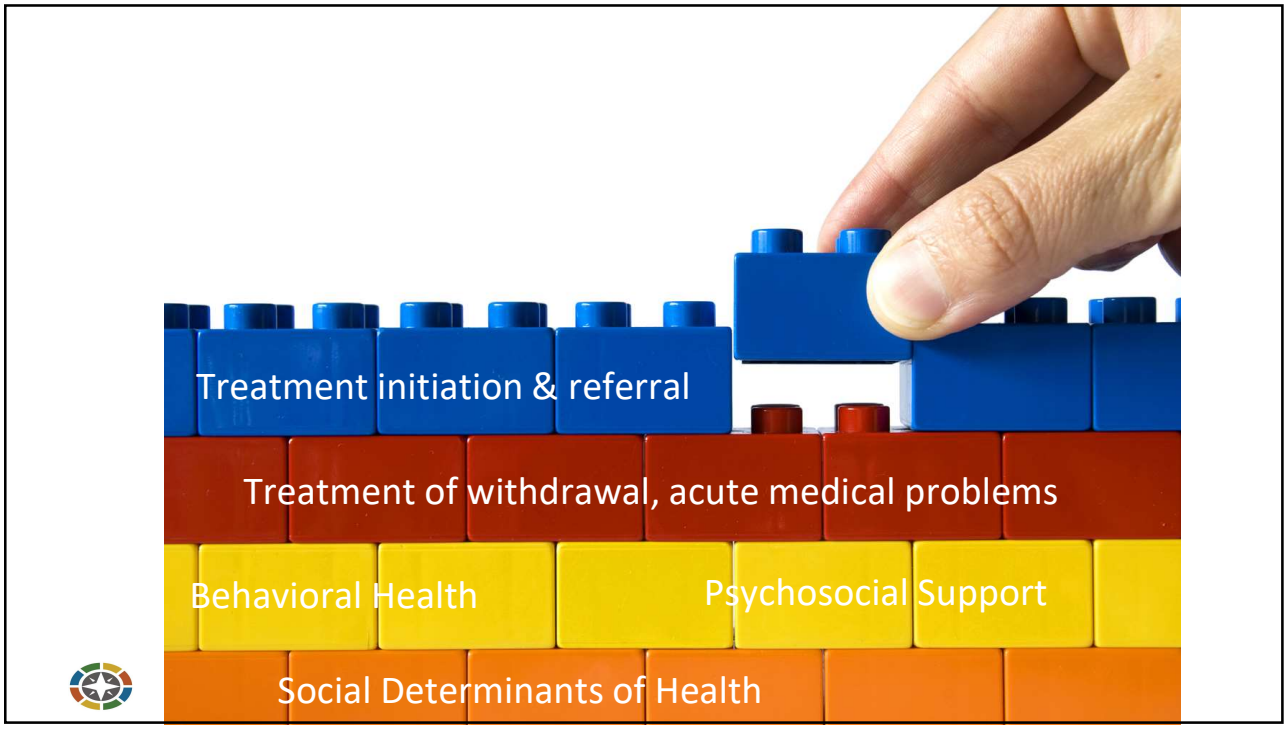
Prevention | Harm Reduction | Treatment

22



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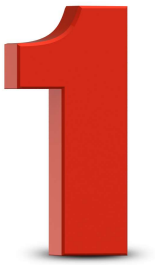

Patient Assessment

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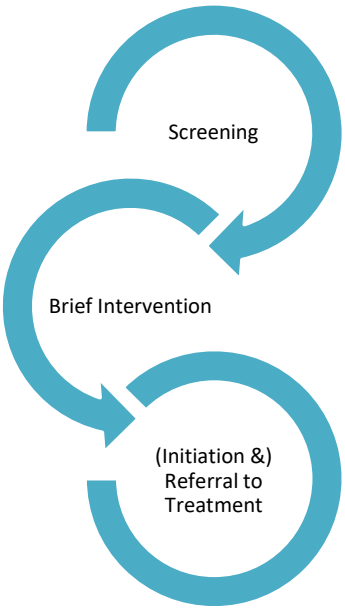

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Meet Patients Where They Are

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PATIENT ENGAGEMENT

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ED Care & Services Linkage

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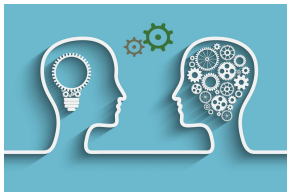
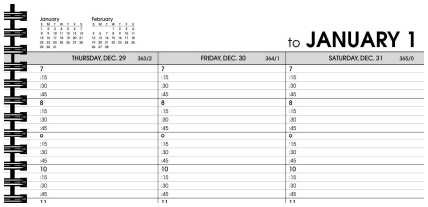
Emergency Department Substance Use Disorder Treatment



Peer Recovery Coach
Social Work
Care Navigator
Community Health Worker



Outpatient Treatment

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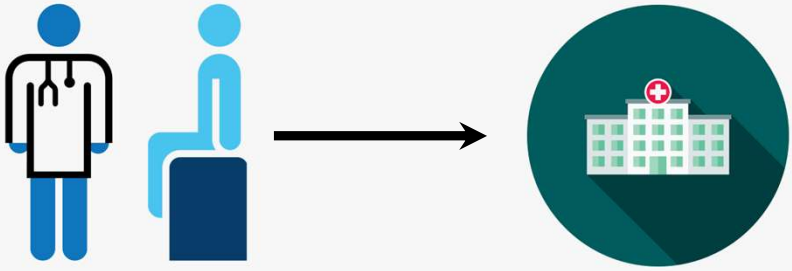

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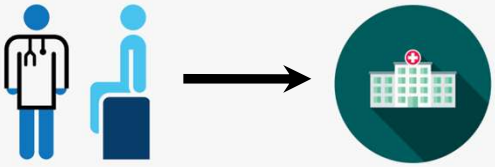

- Please call ahead
- Ask and be available for a follow up call

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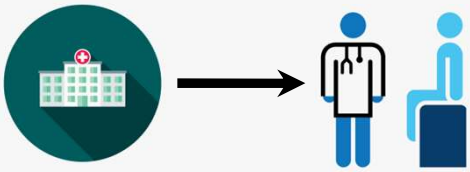

- If discharge plan seems insufficient, help with post-ED follow up plan (even if just an office visit)
- Follow up with patient

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- Alcohol or benzodiazepine withdrawal
- Ongoing opioid withdrawal symptoms
- Signs of systemic infection
- Psychiatric emergency
- Concern for trafficking, abuse, neglect, lack of safety plan
- Treatment initiation (depends on scenario)
- Nausea & vomiting
- Other acute medical need

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Case 1: Vomiting

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15 yo M presents with vomiting and abdominal pain

No past medical history. No prior surgeries.

Symptoms started yesterday, are slightly improved in the shower.

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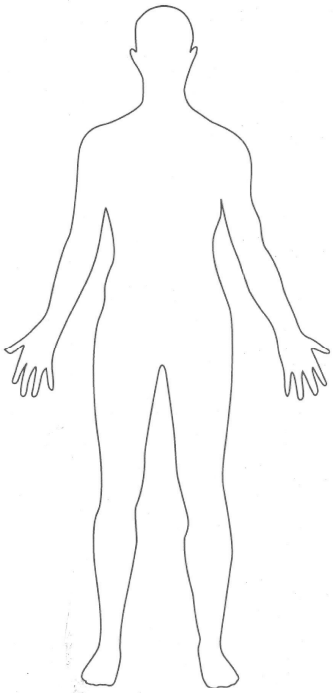


Constitutional: No fever, no body aches.

HEENT: Negative for sore throat, no change in vision.

Respiratory: No shortness of breath

Cardiovascular: No chest pain

Gastrointestinal: Abdominal cramping, nausea, vomiting

Musculoskeletal: Positive for myalgias.

Skin: No rash.

Neurological: Negative for headaches. Feels tremulous.

Psychiatric/Behavioral: Feels anxious, "crawling out of my skin"

All other systems reviewed and are negative.

38

HR 117 | BP 120/70 | Temp 96.8 °F | RR 24 | SpO2 97%

Constitutional: Anxious, restless, irritable.

HEENT: Normocephalic and atraumatic. Oropharynx is clear and moist. EOM are normal. Pupils are dilated, equal, round, and reactive to light. +rhinorrhea

Cardiovascular: tachycardic, regular rhythm.

Pulmonary/Chest: Breath sounds normal. He has no wheezes. He has no rales.

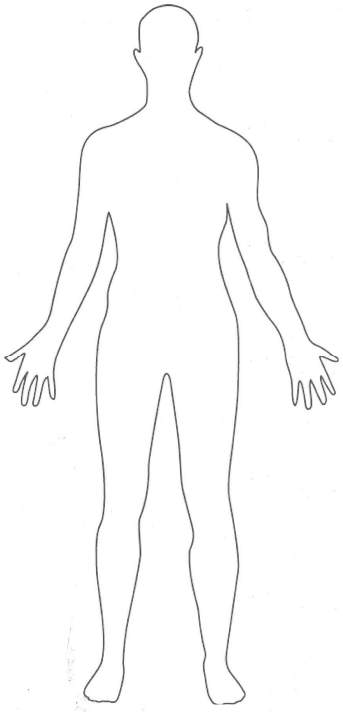
Abdominal: Abdomen soft, Soft. Bowel sounds are normal. He exhibits no distention. There is no distention or tenderness. There is voluntary guarding.

Musculoskeletal: FROM in all extremities, no evidence of trauma or tenderness.

Neurological: He is alert. No cranial nerve deficit. 5/5 strength in all extremities. No tremor.

Skin: Skin is warm. No erythema.

Psychiatric: Anxious, agitated.



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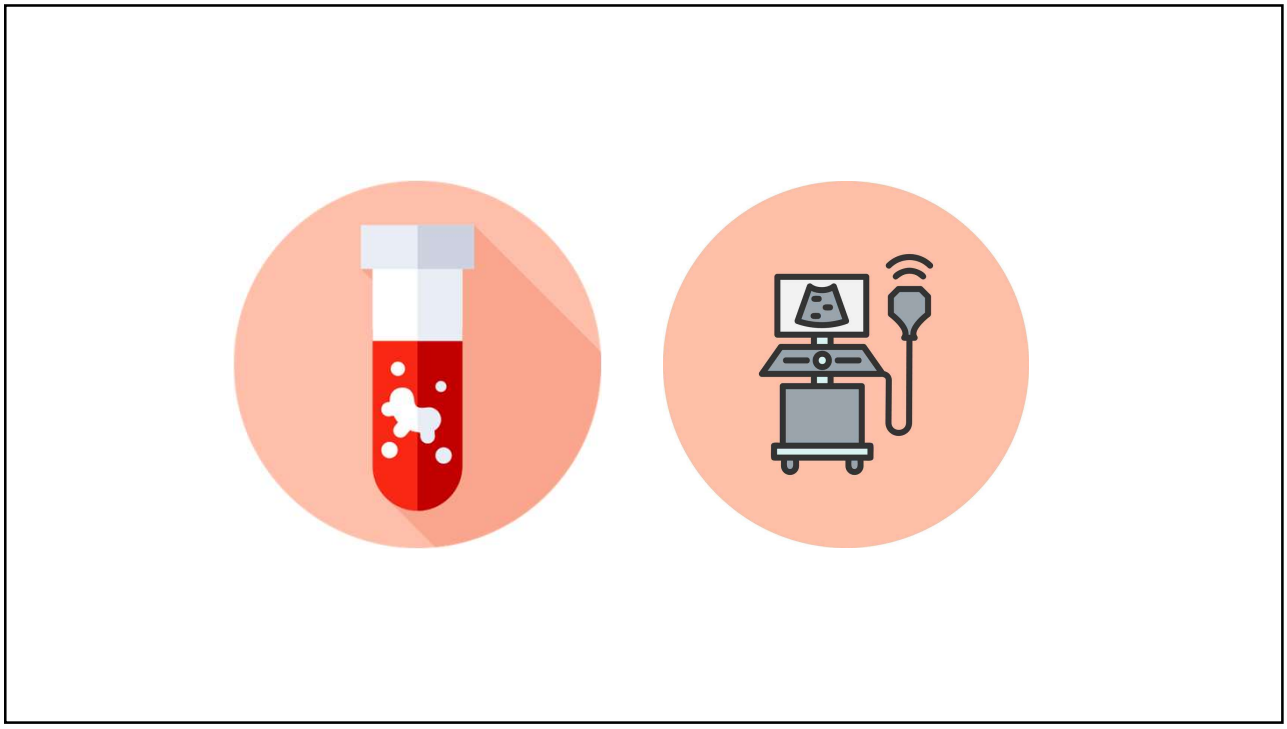

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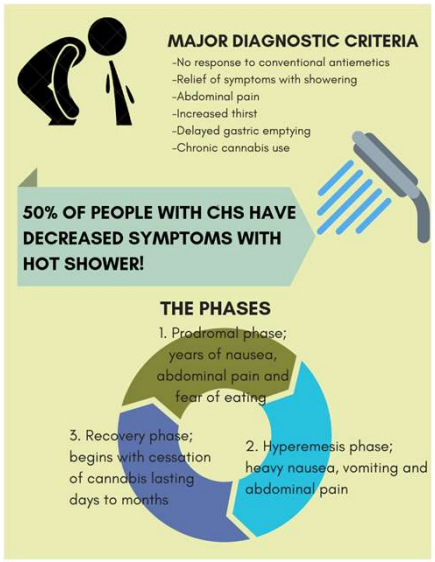
Cannabinoid Hyperemesis Syndrome

PATHOPHYSIOLOGY

Marijuana activates cannabinoid receptor 1 (CB1) resulting in inhibition of gastric secretion, lower esophageal sphincter relaxation, altered intestinal mobility and overall delayed gastric emptying.



Infographic by: Dr. Sanché Mabins @MabinsSanche

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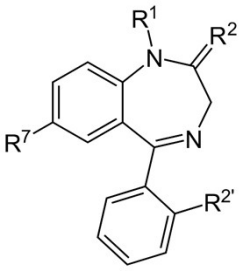

Benzodiazepines

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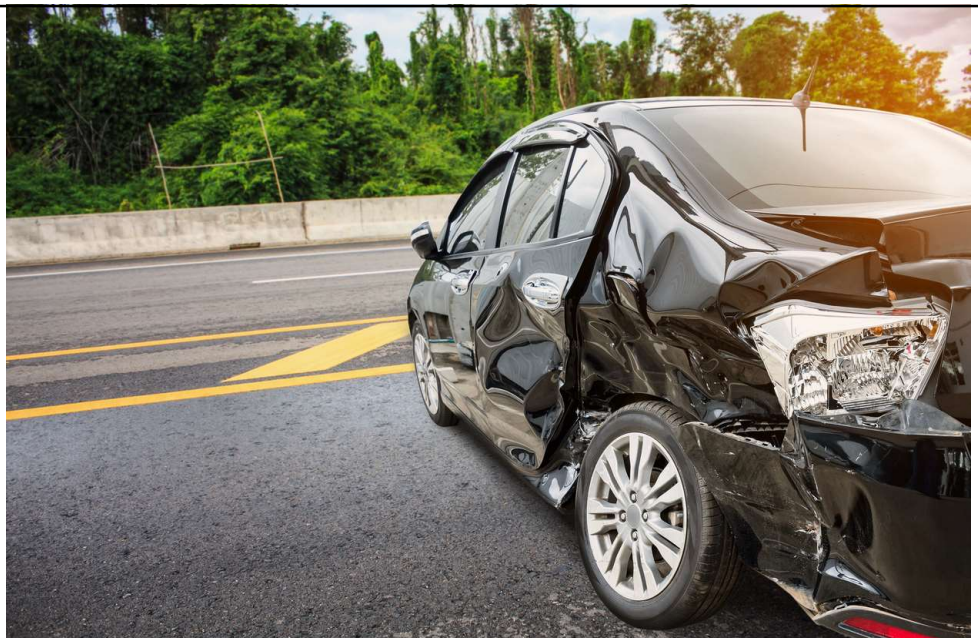

Case 2: MVC

44

17 yo M presents after motor vehicle accident.

No past medical history. No prior surgeries.

Patient visibly intoxicated, denies any pain or injuries.

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Binge Drinking	4-5 drinks within 2-3 hours
Heavy Drinking	Women: 8+ drinks a week Men: 15+ drinks a week
Alcohol Use Disorder	Mild, Moderate, Severe

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ED Interventions for Alcohol Use

AUD

Withdrawal Management

- Benzodiazepines
- Phenobarbital
- Gabapentin
- Librium

Medications for AUD

- Gabapentin
- Naltrexone

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Case 3: Nausea and Vomiting

49

16yo M presents in withdrawal

Patient has a history of daily percocet use for last year

Last use yesterday

Has had one 30-day inpatient substance use treatment stay

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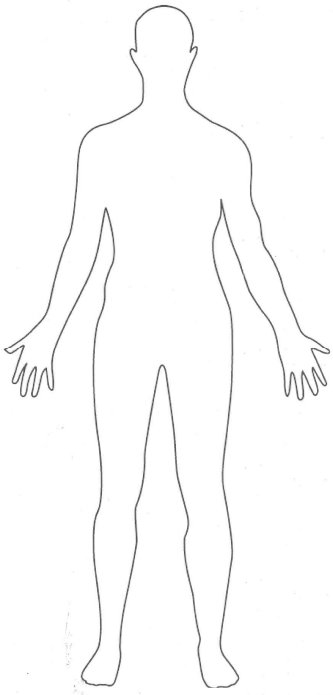


Constitutional: body aches, chills, myalgias, sweating.

HEENT: Negative for sore throat, no change in vision. +runny nose and tearing eyes

Respiratory: No shortness of breath

Cardiovascular: No chest pain

Gastrointestinal: Abdominal cramping, nausea, vomiting

Musculoskeletal: Positive for myalgias.

Skin: No rash.

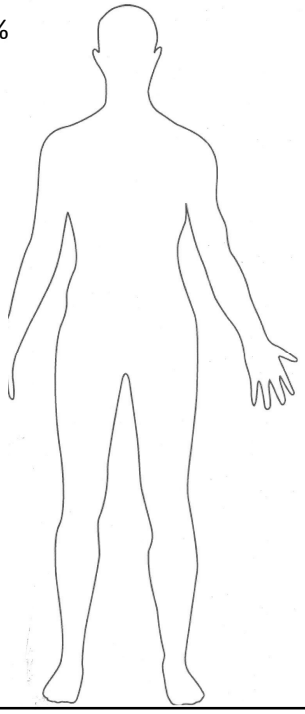
Neurological: Negative for headaches. Feels tremulous.

Psychiatric/Behavioral: Feels anxious, "crawling out of my skin"

All other systems reviewed and are negative.

51

HR 101 | BP 130/70 | Temp 96.8 °F | RR 24 | SpO2 97%



Constitutional: Anxious, restless, irritable, diaphoretic.

HEENT: Normocephalic and atraumatic. Oropharynx is clear and moist. EOM are normal. Pupils are dilated, equal, round, and reactive to light. +rhinorrhea

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Neurological: He is alert. No cranial nerve deficit. 5/5 strength in all extremities. No tremor.

Skin: Skin is warm. +piloerection. No erythema.

Psychiatric: Anxious, agitated.

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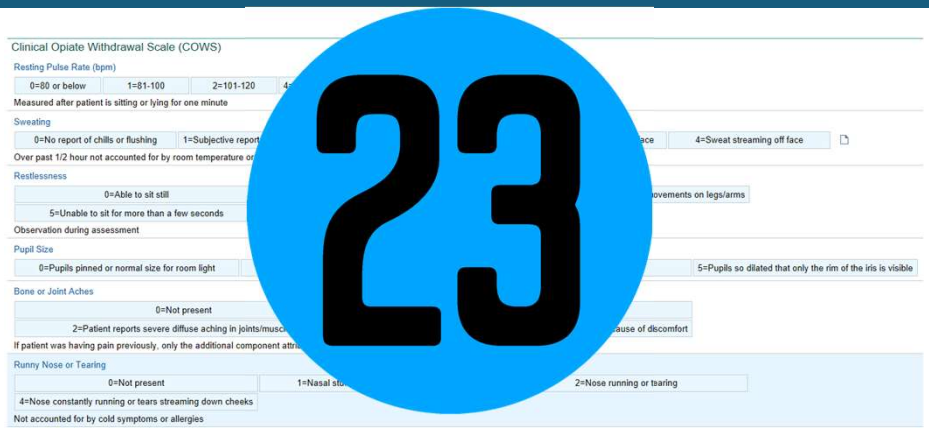
Clinical Opioid Withdrawal Scale (COWS)



- HR
- Sweating
- Restlessness
- Pupil size
- Bone or joint aches
- Runny nose
- GI upset
- Tremor
- Yawning
- Anxiety/irritability
- Goosebumps

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Does the patient have moderate to severe opioid use disorder?

Yes

Are they altered, take methadone, or have severe medical illness?

No

Are they in moderate to severe opioid withdrawal?

54

Objective sign of withdrawal

+

COWS ≥ 8

Tablet: generic, Zubsolv

Sublingual: Suboxone

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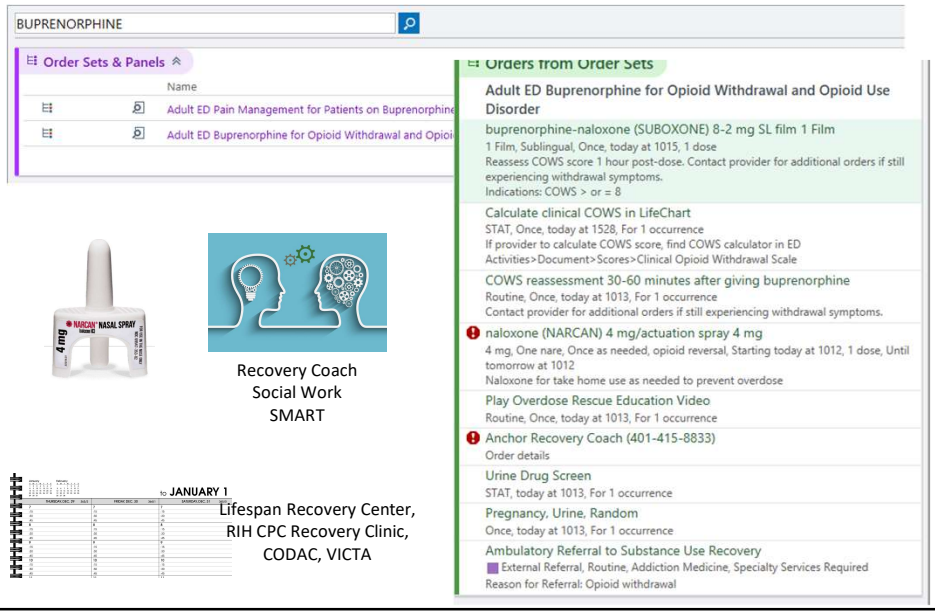
ED OUD Care



Recovery Coach
Social Work
SMART

Lifespan Recovery Center,
RIH CPC Recovery Clinic,
CODAC, VICTA

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Case 4: Opioid Overdose

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21yo M presents after an opioid overdose

Given naloxone by friend

Patient in precipitated withdrawal, anxious

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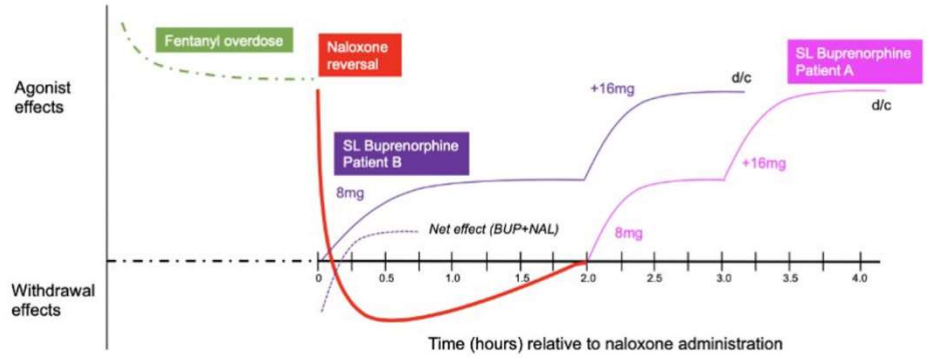
Buprenorphine post-Naloxone



Based on Herring, A. A., Schultz, C. W., Yang, E., & Greenwald, M. (2019). Rapid induction onto sublingual buprenorphine after opioid overdose and successful linkage to treatment for opioid use disorder. *The American journal of emergency medicine*.

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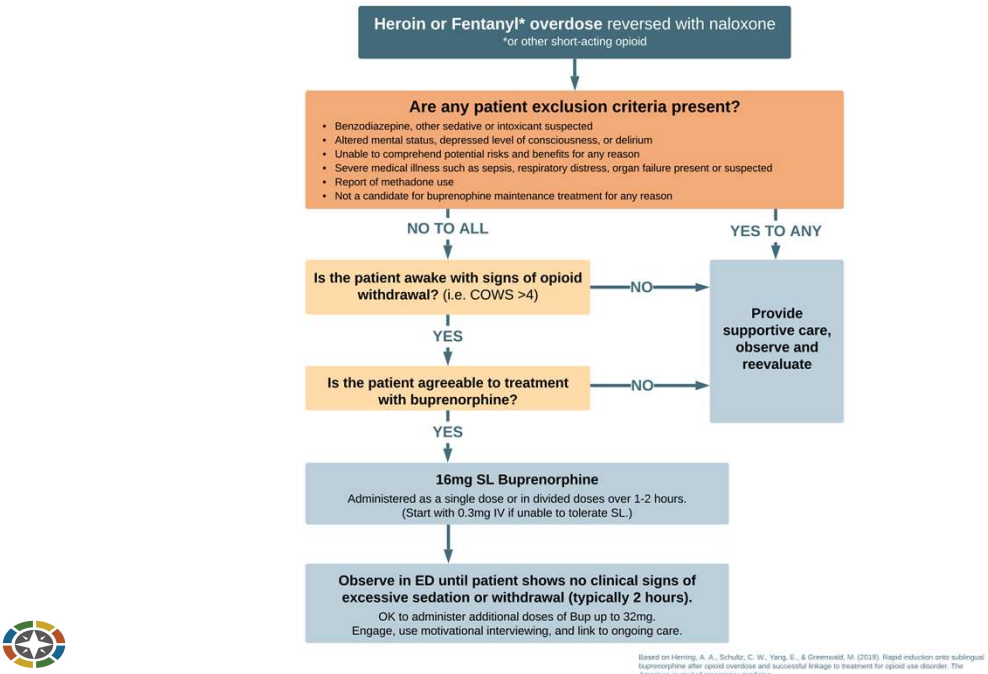

Based on Herring, A. A., Schultz, C. W., Yang, E., & Greenwald, M. (2019). Rapid induction onto sublingual buprenorphine after opioid overdose and successful linkage to treatment for opioid use disorder. *The American journal of emergency medicine*.

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Case 5: Precipitated Withdrawal

62

18 yo F w/ hx of OUD presents in opioid withdrawal

Got took a percocet this morning

Patient took friend's naltrexone to avoid drinking alcohol

Is in severe precipitated opioid withdrawal

63

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Opioid Receptor Binding Affinity

Buprenorphine (Ki=0.216 nM)

Methadone (Ki=3.378nM)

Naloxone Ki= 1.52 nM,
Naltrexone Ki= 1.55 nM

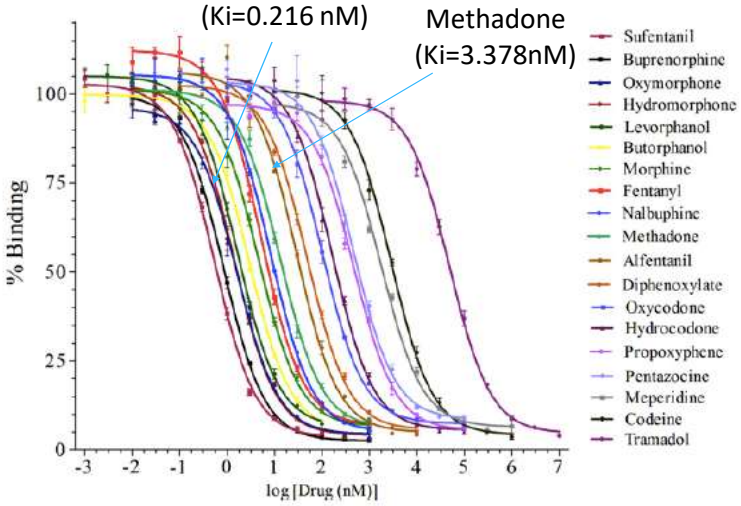

Fig. 3. Competitive binding data for opioid drugs. Symbols represent mean ± SE of three wells. Solid line is the nonlinear fit of the binding data.

Donna, et al 2011

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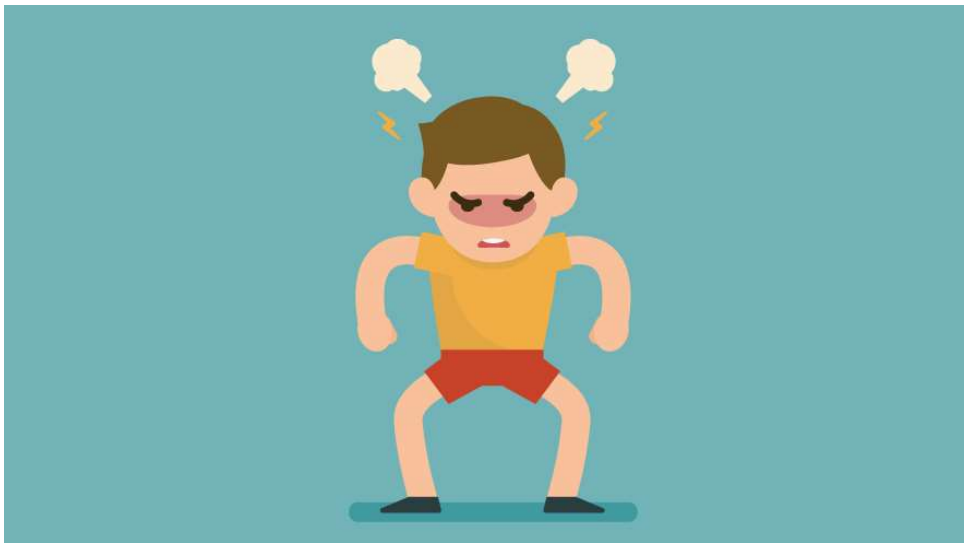

Case 6: Agitation

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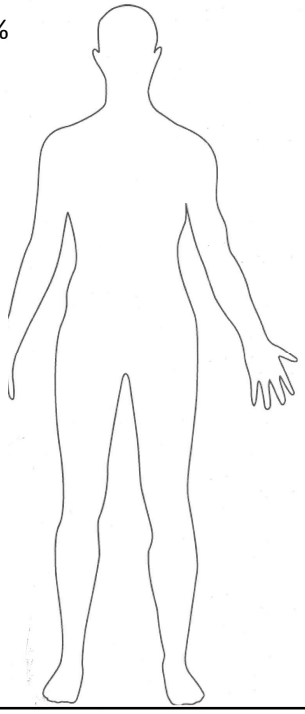
21yo M presents with agitation.

Found yelling standing in the middle of the street.

67

HR 131 | BP 160/83 | Temp 99.1 °F | RR 26 | SpO2 97%



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Musculoskeletal: FROM in all extremities, no evidence of trauma or tenderness.

Neurological: He is alert. No cranial nerve deficit. 5/5 strength in all extremities. No tremor.

Skin: Skin is warm. No erythema.

Psychiatric: Anxious, paranoid, responding to internal stimuli.

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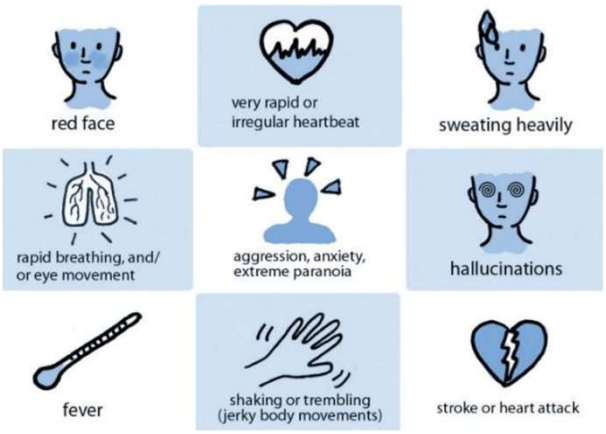
overamping

Physical and/or mental discomfort after using meth



RICHMOND HARM REDUCTION

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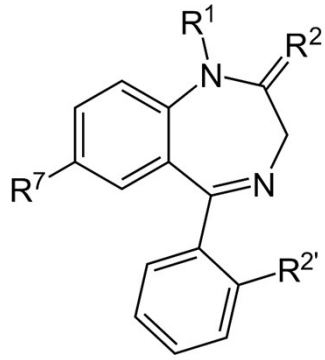

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Brief Intervention

Referral to Treatment

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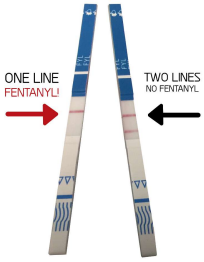

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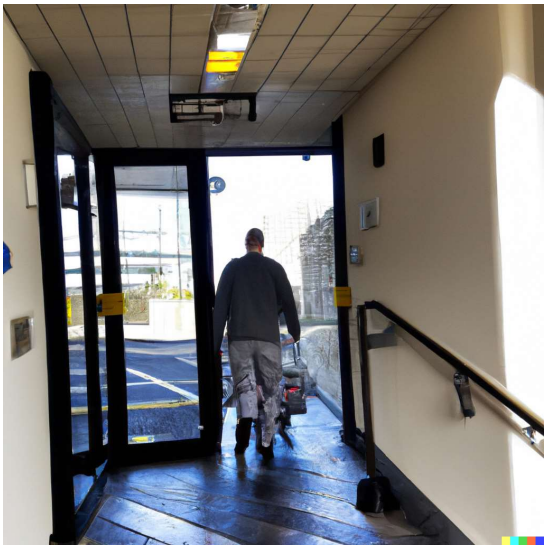

Case 7: Overdose

74

17 yo found down by bystanders

Received Narcan by EMS

Patient denies opioid use.

Wants to leave the ED immediately and starts walking out the door

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Morbidity and Mortality Weekly Report (*MMWR*)

CDC

Notes from the Field: Unintentional Fentanyl Overdoses Among Persons Who Thought They Were Snorting Cocaine — Fresno, California, January 7, 2019

Weekly / August 9, 2019 / 68(31);687–688

Patil Armenian, MD[1]; Jeffrey D. Whitman, MD[2]; Adina Badea, PhD[2]; Whitney Johnson, MD[1]; Chelsea Drake, MS[1]; Simranjit Singh Dhillon[3]; Michelle Rivera[3]; Nicklaus Brandehoff, MD[1]; Kara L. Lynch, PhD[2] (VIEW AUTHOR AFFILIATIONS)

The NEW ENGLAND JOURNAL of MEDICINE

Lethal Fentanyl and Cocaine Intoxication

ELSEVIER

International Journal of Drug Policy

Volume 62, December 2018, Pages 59-66

Commentary

Drug checking as a potential strategic overdose response in the fentanyl era

Matthew K. Laing [a b], Kenneth W. Tupper [b c], Nadia Fairbairn [a b]

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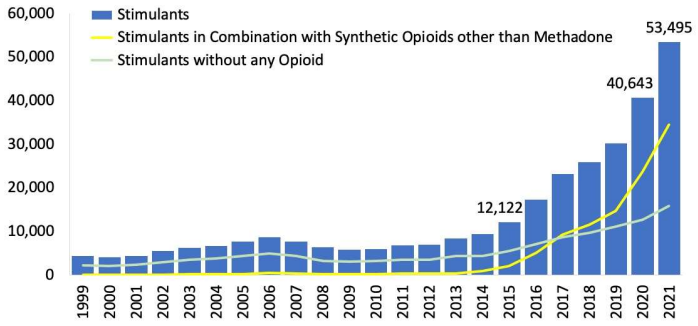
Rising Stimulant-Related Deaths

Figure 6. National Overdose Deaths Involving Stimulants (Cocaine and Psychostimulants*), by Opioid Involvement, Number Among All Ages, 1999-2021



*Among deaths with drug overdose as the underlying cause, the psychostimulants with abuse potential (primarily methamphetamine) category was determined by the T43.6 ICD-10 multiple cause-of-death code. Abbreviated to *psychostimulants* in the bar chart above. Source: Centers for Disease Control and Prevention, National Center for Health Statistics. Multiple Cause of Death 1999-2021 on CDC WONDER Online Database, released 1/2023.

NIDA

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Harm Reduction Principles

- Health & Dignity
- Person-centered
- Participant involved
- Recognize Inequalities & Injustices
- Respect Autonomy
- Pragmatism/realism

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EXAMPLES OF HARM REDUCTION IN OTHER AREAS

Recovery Research Institute

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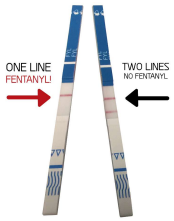

Drug Policy Alliance

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Take Home Points

- Rising opioid overdoses in young adults
- Insufficient initiation of and access to treatment
- Optimal ED care:
  - Patient centered
  - Motivational interviewing
  - Harm reduction
  - Behavioral counseling
  - Treatment initiation and/or linkage
- Concurrent mental health treatment is essential
- Safe disposition planning

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RESOURCES

- American Academy of Pediatrics Opioid Epidemic Resources: https://www.aap.org/en-us/advocacy-and-policy/aap-health-initiatives/Substance-Use-and-Prevention/Pages/opioid-epidemic-resources.aspx
- Brief Screener for Alcohol and Other Drugs: https://www.drugabuse.gov/ast/bstad/#/
- NIDA Adolescent Substance Use Screening Tools: https://www.drugabuse.gov/adolescent-substance-use-screening-tools
- Prescribetoprevent.org – information about prescribing and distributing naloxone
- Providers Clinical Support System – https://pcssnow.org – Information about medication for opioid use disorder, free online waiver training, adolescent-specific webinars

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Questions?

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