Treating Opioid Use Disorder in Adolescents

J. Craig Allen, MD
Medical Director, Rushford
Chief of Psychiatry, MidState Medical Center
Vice President of Addiction Services, Behavioral Health Network
@JCallenMD

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Welcome!

J. Craig Allen, MD  
Medical Director, *Rushford*  
Chief of Psychiatry, *MidState Medical Center*  
Vice President of Addiction Services, *Behavioral Health Network*

KC Wu, MPH  
Project Coordinator, *Practice Improvement*  
*National Council for Behavioral Health*
Housekeeping

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- Webinar is being recorded and will be archived for future viewing at [www.pcssNOW.org](http://www.pcssNOW.org) within 2 weeks.
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Disclosures

I do not have any disclosures.

The content of this activity may include discussion of off label or investigative drug uses. The faculty is aware that it is their responsibility to disclose this information.
The overarching goal of PCSS is to train healthcare professionals in evidence-based practices for the prevention and treatment of opioid use disorders, particularly in prescribing medications, as well for the prevention and treatment of substance use disorders.
Educational Objectives

At the conclusion of this activity participants should be able to:

- Identify the major risk factors for developing Opioid Use Disorder (OUD)
- Examine the evidence supporting Medications for treating Opioid Use Disorder (MOUD)
- Identify strategies to intervene with youth at risk of developing or having developed OUD
- Review strategies to engage in OUD treatment
Meet “Hal”

- Hal is a 16 yo HS JR arriving for his annual school physical.

- Hal plays football for the HS team. Freshman year he was introduced to marijuana and alcohol. Some peers used primarily at parties and on the weekends; Hal used 4-5 days a week.

- Sophomore year, Hal suffered a knee injury requiring surgery.

- Prescribed Oxycontin for pain, he enjoyed it and started using non-medically. First orally, then insufflating, then smoking. 3 months ago, unable to afford the pills, he was offered heroin and shown how to inject.

- In the office Hal is pale, sweating, achy, nauseous and craving heroin. He is terrified his pediatrician is going to be alerted by these symptoms and identify his use. Worse yet, he has track marks on his left arm.
COVID-19 Pandemic

- Environment leading to increased substance use
  - Isolation, disrupted routines, loss of work, financial stress, worry regarding health of self and others, disruption of treatment and recovery support services

- Increased deaths of despair
  - WBT & Robert Graham Center Analysis: COVID Pandemic Could Lead to 75,000 Additional Deaths from Alcohol and Drug Misuse and Suicide

- Increased overdoses
  - OD Map data
  - State of CT data

- New opportunities
  - Telehealth
  - Digital Health
  - Community based

Research article  |  Open Access  |  Published: 03 April 2020

Assessing patient safety in a pediatric telemedicine setting: a multi-methods study

Motti Haimi, Shuli Brammli-Greenberg, Orna Baron-Enkel & Yohezkel Waisman

BMC Medical Informatics and Decision Making 20, Article number: 63 (2020)  |  Cite this article
• Substance use initiation most often occurs during childhood or adolescence.

• Prevention efforts are within the purview of primary care pediatricians.

• Providing OUD treatment with MAT is a logical strategy for creating developmentally appropriate access for youth with opioid addiction.

• Integration of SUD treatment into primary care offers benefits of extending treatment for the more common alcohol, marijuana, and tobacco use disorders and builds an infrastructure preparing for the next epidemic of drug addiction.
Less than 20 percent received a diagnosis of opioid use disorder, or a problematic pattern of opioid use resulting in impairment or distress.

Few received the standard for addiction treatment, behavioral therapy and treatment with one of three drugs: buprenorphine, naltrexone, or methadone.

Other findings:

• 68.9 percent did not receive addiction treatment of any kind.
• 29.3 percent received behavioral health services alone.
• Only 1.9 percent received one of three approved medications for opioid use disorder.
Vulnerability to SUDs

Genetics
- opioid receptors
- dopamine
- other transmitters
- intracellular signals
- novelty seeking
- harm avoidance
- impulsivity
- psychiatric disorders

Environment
- parents
- siblings
- friends
- Adverse Childhood Experiences (ACEs)
- psychiatric disorders
- stressors
- lack of positive experiences
- illicit sources
- prescription
- family and friends

References:
- Anokhin et al., 2015
- Milivojevic et al., 2012
- Reed et al., 2014
- Volkow et al., 2016
During past 12 months did you
A. Drink any alcohol?
B. Smoke any marijuana or hashish?
C. Use anything else to get high?

If NO: Ask if you have ever ridden in a CAR driven by someone who was high or had been using drugs or alcohol?

IF YES – complete CRAFFT

CRAFFT is a mnemonic acronym of first letters of key words in the 6 screening questions. The questions should be asked exactly as written.

Have you ever ridden in a CAR driven by someone (including yourself) who was “high” or had been using alcohol or drugs?

Do you ever use alcohol or drugs to RELAX, feel better about yourself, or fit in?

Do you ever use alcohol or drugs while you are by yourself, or ALONE?

Do you ever FORGET things you did while using alcohol or drugs?

Do your family or FRIENDS ever tell you that you should cut down on your drinking or drug use?

Have you ever gotten into TROUBLE while you were using alcohol or drugs?
Addiction is 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.

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

Adopted by the ASAM Board of Directors September 15, 2019
DSM-5 Criteria for SUDs

Loss of control
- more than intended
  - amount used
  - time spent
- unable to cut down
- giving up activities
- craving

Physiology
- tolerance
- withdrawal

Consequences
- unfulfilled obligations
  - work
  - school
  - home
- interpersonal problems
- dangerous situations
- medical problems

formerly “dependence”

formerly “abuse”

A substance use disorder is defined by having 2 or more in the past year resulting in distress or impairment.

Tolerance and withdrawal alone don’t necessarily imply a disorder.

Severity is rated by the number of symptoms present:

- 2-3 = mild
- 4-5 = moderate
- 6+ = severe
Opioids Receptor Locations

- Main target for Opioids are Mu Receptors

- Densely concentrated in:
  - Brain regions associated with:
    - Pain perception
    - Reward pathways
    - Respiratory function
  - Spinal Cord
  - GI System
  - Peripheral regions

Volkow and McLellan, 2016
Tolerance to Opioid Effects

- With repeated exposure to opioids, tolerance (needing more to produce the same effect) develops
- Tolerance involves changes in receptor numbers and functioning
- Tolerance develops at different rates, and to different extents, for different effects:
  - **rapid tolerance**
    - sedation
    - euphoria
    - respiratory depression
    - nausea
  - **little or no tolerance**
    - constipation
    - pupil constriction
- Tolerance is **lost** while abstaining from opioids for an extended period, including during treatment with an opioid antagonist (i.e. naltrexone)
## Opioid Intoxication and Withdrawal

### Intoxication

<table>
<thead>
<tr>
<th>Signs</th>
<th>Symptoms</th>
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</thead>
<tbody>
<tr>
<td>Bradycardia</td>
<td>Euphoria</td>
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<tr>
<td>Decreased respiratory rate</td>
<td>Analgesia</td>
</tr>
<tr>
<td>Shallow breathing</td>
<td>Calmness</td>
</tr>
<tr>
<td>Pinpoint pupils</td>
<td>Somnolence</td>
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<tr>
<td>Hypotension</td>
<td></td>
</tr>
<tr>
<td>Hypothermia</td>
<td></td>
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<tr>
<td>Sedation</td>
<td></td>
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<tr>
<td>Slowed movement</td>
<td></td>
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<tr>
<td>Slurred speech</td>
<td></td>
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<tr>
<td>Head nodding</td>
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</table>

### Withdrawal

<table>
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<th>Signs</th>
<th>Symptoms</th>
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</thead>
<tbody>
<tr>
<td>Tachycardia</td>
<td>Abdominal cramps</td>
</tr>
<tr>
<td>Hypertension</td>
<td>Nausea</td>
</tr>
<tr>
<td>Hyperthermia</td>
<td>Vomiting</td>
</tr>
<tr>
<td>Insomnia, yawning</td>
<td>Diarrhea</td>
</tr>
<tr>
<td>Dilated pupils</td>
<td>Muscle/bone aches</td>
</tr>
<tr>
<td>Hyperreflexia</td>
<td>Anxiety</td>
</tr>
<tr>
<td>Tearing, runny nose</td>
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?COVID-19?

SAMHSA, 2018
Kampman et al., 2015
Medication for Opioid Use Disorder (MOUD)
Path to Addiction

Acute use  Chronic use

Normal  Withdrawal  Euphoria

Tolerance & Physical Dependence

Medication-Assisted Therapy
FDA approved MOUD
Medication Assisted Therapy (MAT)
Psychosocial therapy with medication

**Mu (μ) Receptor Activation**

- **Full agonist**
  - Morphine
  - Full activation of μ receptor site

- **Partial agonist**
  - Buprenorphine
  - Partial activation of μ receptor site

- **Antagonist**
  - Naloxone
  - Prevents or reverses activation of receptor site

- **Methadone**, 18 years or older *
  - Methadone clinic, initially dispensed daily

- **Buprenorphine/naloxone**, 16 years or older
  - (Suboxone, Zubsolv, Bunavail etc.)
  - Office based px

- **Naltrexone extended release**, 18 years or older and
  - (Revia, Vivitrol etc)
  - Office based px


SAMHSA, 2018
Orman & Keating, 2009
Opioid Overdose

• Signs and Symptoms:
  • Decreased level of consciousness to the point of potential unresponsiveness
  • Pinpoint pupils
  • Respiratory depression
  • Slowed or stopped breathing (potentially leading to cardiac arrest)
  • Pale face, blue or purple lips/nails

• Treatment:
  • Naloxone:
    • NARCAN® Nasal Spray
    • EVIZIO® prefilled auto-injection device
    • Generic Injectable products for nasal atomizer, intravenous, intramuscular, or subcutaneous use

SAMHSA, 2018
Abstinence Without MAT

Hunt et al., 1971

% remaining abstinent

0 10 20 30 40 50 60 70 80 90 100

0 3 6 9 12

Months

Heroin
Alcohol
Nicotine
• Buprenorphine promotes retention, and those who remain in treatment become more likely over time to abstain from other opioids

Kakko et al, 2003
Soeffing et al., 2009
Benefits of MAT: Decreased Mortality

Death rates:

- General population
- Medication-assisted treatment

Dupouy et al., 2017
Evans et al., 2015
Sordo et al., 2017
Retention bup treatment young adults vs. older adults

Problems with Traditional Treatments

• Adult models

• Abstinence

• Therapists are pressured to convince adolescents to quit drugs

• The focus on abstinence sets adolescents up to lie or resist treatment, resulting in ineffective engagement

• Disappointing treatment outcomes and high drop out rates
Principles of Adolescent Treatment

- Establish rapport
  - developmental level
  - confidentiality

- Treatment must attend to multiple needs of the individual, not just drug use.

- Behavioral therapies, incentives, skill development and replacing use with constructive and rewarding activities.

- SUD treatment should be integrated with mental health.

- Family or caregiver engagement, communication and ability to support abstinence.

- Rapid access to treatment, and multiple courses may be required.

- 3 months or longer with ongoing monitoring (utox) and involvement in community-based treatments.
MOUD for an Adolescent

- Factors to consider when deciding whether an adolescent is appropriate for MAT:
  - Diagnosis
    - Collateral information, UDS
  - Co-occurring disorders
    - Including SUD
  - Physiologic dependence on other substances or high risk
  - Stability/need for additional support
    - Home environment
  - Insurance considerations
  - Available options
    - In home services, Withdrawal management, residential
  - Patient/family preference
  - Risks and benefits
  - Logistics: Can patient/family adhere to appointment and drug testing recommendations?
MI principles are consistent with adolescent development

- Express Empathy
  -- relationship building

- Roll with Resistance
- Avoid Argumentation
  -- respect for autonomy and individuation

- Support Self-efficacy
  -- competency development

- Develop Discrepancy
  -- supports planning ahead, anticipating risks

- Develop Autonomy
Treatment Agreements – Example of Key Components

- Arriving at appointments punctually
- Courteous in the office
- Refrain from arriving intoxicated or under the influence of drugs
- Agree not to sell, share, give any medication to others
- Agree not to deal, steal or conduct other illegal or disruptive activities
- Medications will be provided during scheduled office visits
- Responsible safe storage of medications
- Agree not to obtain medications from other providers, physicians, pharmacies, or other sources without informing my treating provider
- Agree to follow the prescription instructions
Referral to More Intensive Levels of Care

- Have clear guidelines about factors that can lead to a referral to more intensive level of care:
  - Review with patient and family/caregivers
  - Commitment from patient in the form of a treatment agreement
  - Options
    - Intensive Outpatient Program
    - Partial Hospitalization
    - Opioid Treatment Program (Methadone Maintenance Programs)
    - In-patient Psychiatry for suicidal or homicidal patients
    - Residential Treatment

- Example of re-admission to outpatient MAT:
  - Successful completion of residential treatment
Elements of Recommended Treatment Model

- Emphasis on ongoing engagement from detox to next levels of care
- Specialty care
- Longitudinal follow-up and management
- Integration of relapse prevention medication as standard of care
  - Buprenorphine
  - Extended release naltrexone
- Co-occurring (dual diagnosis) treatment
- Community-based recovery support groups
  (eg. AA, NA, SMART Recovery, etc.)
- Recovery Support Specialists wrap around services.
  (eg. MATCH and Aware)
- Technologically assisted recovery and relapse prevention
  (eg. Telehealth, TryCycle, CHESS, etc.)
Medication Assisted Treatment Close to Home

**HUB**
Rushford residential addiction treatment

**MINI-HUB**
Hartford HealthCare Emergency Depts.

**SPOKES**
Behavioral Health Network MATCH sites
Some Conclusions for Adolescents and Young Adults with Opioid Use Disorder

- MOUD is feasible and effective (i.e. Buprenorphine (bup) better than no bup)
- Longer bup treatment better outcomes than shorter bup treatment
- Residential (with and without bup) effective as a component of continuum
- Naltrexone extended release looks promising likely as effective as bup like with adults
- Initial exploration of moderators/mediators
  - Early adherence and success
  - ? Other substances especially MJ
  - Concurrent psychiatric treatment
Meet “Hal”

- Survives overdose at home and discharged to residential treatment receiving individual, group and family work. Engages with recovery support specialists and transitions to community supports and outpatient programming.

- 3 weeks later Hal overdoses, revived at home with naloxone, in the ED he is inducted onto buprenorphine/naloxone and admitted to residential treatment

- RSS, clinician, addiction psychiatrist, the 7 Challenges program, family therapy

- Before discharge, telehealth meeting with clinician at community-based IOP program

- RSS, clinician, addiction psychiatrist, the 7 Challenges program, family therapy continue in community-based program, initiation of digital application

- Hal and his parents report that he is attending school, no legal problems, engaged in programing and UDS positive for bup/norbup no other substances
References

Surgeon Generals Office:

- E-cigarette Use among Youth and Young Adults
- The Surgeon General's Report on Alcohol, Drugs and Health
- Spotlight on Opioids
  - [https://addiction.surgeongeneral.gov/sites/default/files/Spotlight-on-Opioids_09192018.pdf](https://addiction.surgeongeneral.gov/sites/default/files/Spotlight-on-Opioids_09192018.pdf)

From NIDA:

- Downloadable Posters & Stickers
- Interactive & Educational Videos
  - [https://easyread.drugabuse.gov/](https://easyread.drugabuse.gov/)
- Drug Facts for Teens; how they affect the brain & body
Thank You!

J. Craig Allen, MD
Medical Director, Rushford
Email: JCraig.Allen@hhchealth.org
Twitter: @JCAAllenMD
PCSS Mentoring Program

- PCSS Mentor Program is designed to offer general information to clinicians about evidence-based clinical practices in prescribing medications for opioid use disorder.

- PCSS Mentors are a national network of providers with expertise in addictions, pain, evidence-based treatment including medications for addiction treatment.
  - 3-tiered approach allows every mentor/mentee relationship to be unique and catered to the specific needs of the mentee.
  - No cost.

For more information visit: https://pcssNOW.org/mentoring/
PCSS Discussion Forum

Have a clinical question?

"Ask a Colleague"
A simple and direct way to receive an answer related to medication-assisted treatment. Designed to provide a prompt response to simple practice-related questions.

Ask Now

http://pcss.invisionzone.com/register
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