Medication-Assisted Treatment of Adolescents With Opioid Use Disorders

Opioid use disorder is a leading cause of morbidity and mortality among US youth. Effective treatments, both medications and substance use disorder counseling, are available but underused, and access to developmentally appropriate treatment is severely restricted for adolescents and young adults. Resources to disseminate available therapies and to develop new treatments specifically for this age group are needed to save and improve lives of youth with opioid addiction.

BACKGROUND

With a renewed emphasis on treating pain directed by the US Department of Health and Human Services in 1992 and institutionalized by the Joint Commission on Accreditation of Hospitals in 2001, combined with the development of potent oral opioid pain medications, exponential increases in the annual number of opioid prescriptions written by US physicians have occurred over the past 2 decades. Between 1991 and 2012, the rate of "nonmedical use" (ie, use without a prescription or more than prescribed) of opioid medication by adolescents (12–17 years of age) and young adults (18–25 years of age) more than doubled, and the rate of opioid use disorders, including heroin addiction, increased in parallel. The rate of fatal opioid overdose more than doubled between 2000 and 2013. In 2008, more than 16,000 people died of opioid pain reliever overdose. Other serious adverse health outcomes result from intravenous drug use and include endocarditis, abscesses, and infection with hepatitis C.

Severe opioid use disorder is a chronic condition in which neurologic changes in the reward center of the brain are responsible for cravings and compulsive substance use. The associated behavioral disruptions and change in functioning range from modest to severe; remarkably, some adolescents may continue to do well in school and in other areas of life despite severe opioid use disorder. The rate of spontaneous remission is low; however, patients can recover. Three medications are currently indicated for treating severe opioid use disorder: methadone,
with opioid use disorders, and buprenorphine for treating adults
An expansive body of research
short and moderate half-lives.
associated with full agonists with
can ameliorate the highs and lows
system, which, like methadone,
gentle stimulation of the opioid
Buprenorphine binding results in
affinity for the opioid receptor.
is a partial opioid agonist with high
years and older. Buprenorphine
Administration approved the use
In 2002, the US Food and Drug
unsupervised housing.
co-occurring alcohol use disorder,
adolescents and young adults with
may be a good therapeutic option for
extended-release formulation may
potential for misuse or diversion. The
extended-release formulation may
reduce patient adherence burden.
Although there is not yet rigorous
research support for efficacy in
adolescents, growing experience
and anecdotal reports support it as
a promising practice. Naltrexone,
which also reduces alcohol cravings,
may be a good therapeutic option for
adolescents and young adults with
coccurring alcohol use disorder,
as well as those living in unstable or
unsupervised housing.

In 2002, the US Food and Drug
Administration approved the use
of buprenorphine for patients 16
years and older. Buprenorphine
is a partial opioid agonist with high
affinity for the opioid receptor.
Buprenorphine binding results in
gentle stimulation of the opioid
system, which, like methadone,
can ameliorate the highs and lows
associated with full agonists with
short and moderate half-lives.
An expansive body of research
has shown the effectiveness of
buprenorphine for treating adults
with opioid use disorders, and
2 randomized controlled trials
have examined the therapeutic
efficacy of buprenorphine combined
with substance use counseling in
adolescents and young adults. Marsh
et al found that adolescents 13 to
18 years of age who received 2 weeks
of buprenorphine treatment were
more likely to continue medical care
compared with those who received
clonidine for the same period of time.
A trial conducted by Woody et al
compared 2 detoxification regimens
among adolescents and young adults
15 to 21 years of age. One group
received 8 weeks of buprenorphine
before tapering, and the second
group received 2 weeks. Adolescents
who received 8 weeks had lower
rates of illicit opioid use while they
were taking buprenorphine, and the
differences quickly disappeared once
the medication was discontinued.
The findings led the authors to
conclude that there is no obvious
reason to stop medications in
adolescent patients who are doing
well on buprenorphine. Matson
et al found that continued
buprenorphine compliance is
associated with an increase in
treatment and can help adolescents
achieve long-term sobriety. In
general, youth have lower rates of
treatment retention compared with
adults, underscoring the need to
deliver developmentally appropriate
treatment to achieve best outcomes.

Buprenorphine has the potential
for misuse and diversion because of
its opioid agonist activity, although
its “addiction potential” is thought
to be much lower than that of full
opioid agonists, such as oxycodone
or heroin. Extensive experience
with adults has established the
evidence supporting the efficacy of
buprenorphine, and although not
as well studied among youth so far,
research and clinical experience
to date have not identified any
age-specific safety concerns.
Nonetheless, confusion, stigma, and
limited resources severely restrict
access to buprenorphine for both
adolescents and adults. Knudsen
et al found that less than 50% of a
nationally representative sample of
345 addiction treatment programs
serving adolescents and adults
offer patients medication for the
treatment of opioid use disorders,
and even among programs that do
offer it, medication is significantly
underutilized. The same study
found that only 34% of opioid-
dependent patients in treatment
receive medication. By comparison,
70% of patients with mental health
disorders in these same programs
received medication. Policies,
attitudes, and messages that serve
to prevent patients from accessing a
medication that can effectively treat
a life-threatening condition may be
harmful to adolescent health.

**Recommendations**

1. Opioid addiction is a chronic
relapsing neurologic disorder. Although
rates of spontaneous recovery are low, outcomes can
be improved with medication-assisted treatment. The American
Academy of Pediatrics (AAP) advocates for increasing resources
to improve access to medication-assisted treatment of opioid-
addicted adolescents and young adults. This recommendation
includes both increasing resources for medication-assisted treatment
within primary care and access to developmentally appropriate
substance use disorder counseling in community settings.
Pediatricians have access to an
AAP-endorsed buprenorphine
waiver course at www.aap.org/
mat.

2. The AAP recommends that pediatricians consider offering
medication-assisted treatment to their adolescent and young adult
patients with severe opioid use disorders or discuss referrals to
other providers for this service.
3. The AAP supports further research focus on developmentally appropriate treatment of substance use disorders in adolescents and young adults, including primary and secondary prevention, behavioral interventions, and medication treatment.

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ABBREVIATION
AAP: American Academy of Pediatrics

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