

SUBSTANCE USE AND DEPENDENCE AMONG HIV-INFECTED ADOLESCENTS AND YOUNG ADULTS

I. INTRODUCTION

RECOMMENDATIONS:

Clinicians treating HIV-infected adolescents should know how to screen adolescents for substance use and, if substance misuse is present, to develop a treatment plan and make referrals as appropriate.

Clinicians should be familiar with the stages of substance use progression and patterns of adolescent drug and alcohol use.

The American Academy of Pediatrics defines adolescence as 13 to 21 years. However, many pediatric and adolescent clinicians follow patients from 13 to 24 years of age before they transition to adult HIV care. For the purpose of these guidelines, the term *adolescents* refers to both adolescents and young adults, 13 to 24 years of age.

The use and abuse of alcohol and other mood-altering substances can be particularly problematic for both adult and adolescent HIV-infected patients. However, substance use patterns are different between adolescents and adults.¹ Screening, assessment, and treatment of substance use in adolescents require unique considerations, including the following:

- Social factors, particularly strong peer influences, have a significant impact on adolescent substance use.^{1,2}
- Experimentation with substances, especially with alcohol, is common among adolescents and is often considered normative behavior.³
- HIV-infected adolescents presenting for treatment typically demonstrate a high degree of co-occurring mental health symptoms or prior mental health diagnoses,⁴ which frequently precede the onset of problem substance use.

Marijuana and alcohol are used frequently by HIV-infected adolescents. Use of heroin, methamphetamine, and cocaine is less commonly reported^{5,6}; however, males and those with asymptomatic HIV infection may be more likely to use these substances.^{5,7} In the general adolescent population, the misuse of prescription opioids is increasing.⁸ Methamphetamine use is increasing among young adults (aged 18 to 26), particularly among men who have sex with men.⁹ Awareness of factors that influence the use of other types of substances among adolescents is also important. Adolescents in school may be at risk for misusing stimulants, such as methylphenidate, for enhancing academic performance.¹⁰ Adolescents involved in sports or concerned with body image may be at risk for using anabolic steroids to enhance their athletic performance and appearance.¹¹

This chapter provides guidance on how to:

- Identify HIV-infected adolescents at risk for substance use
- Communicate with adolescents about substance use
- Screen and assess for substance use in HIV-infected adolescents
- Implement appropriate substance use interventions and make necessary referrals

II. RISK FACTORS FOR SUBSTANCE USE IN HIV-INFECTED ADOLESCENTS

RECOMMENDATION:

Clinicians should be able to recognize adolescents who are at high risk for substance use (see Table 1).

The developmental changes that occur during adolescence, coupled with HIV infection, can increase the use of alcohol and other substances. These patients may feel a sense of vulnerability, which may further place them at risk for substance use. Understanding adolescent development is critical to helping adolescents mature into well-adjusted adults (see [Ambulatory Care of HIV-Infected Adolescents](#)).

Assessment of the emotional support available to HIV-infected adolescents is essential, including whether an adult role model is present. Homeless and transient adolescents, as well as adolescents in foster care, are particularly vulnerable to social isolation and often require intensive case management. Because support networks may include family, friends, sexual partners, healthcare providers, teachers, counselors, clergy, and adult role models, clinicians should be inclusive when inquiring about who is significant in adolescents' lives (see [Ambulatory Care of HIV-Infected Adolescents](#) and *Screening and Ongoing Assessment for Mental Health Disorders*).

Many of the individual, family, and social factors associated with increased risk for substance use in adolescents are prevalent in HIV-infected adolescents (see Table 1). Clinicians can use this information to help identify HIV-infected adolescents who may be at particular risk for substance use.

TABLE 1
POTENTIAL RISK FACTORS FOR SUBSTANCE USE IN HIV-INFECTED ADOLESCENTS

Risk Factor	Comment
Mental health diagnoses	Adolescents with diagnoses of depression, anxiety, post-traumatic stress disorder, attention-deficit/hyperactivity disorder, and conduct disorder are more likely to use substances than adolescents with no mental health diagnosis. ¹²⁻¹⁴
Sexual, emotional and physical abuse	Abuse and neglect in childhood is consistently associated with a high likelihood of substance use during adolescence in both males and females. ¹⁵⁻¹⁷ Violence associated with dating is also linked to high levels of alcohol and marijuana use in adolescents. ¹⁸ One study found that one in seven young men who have sex with men (YMSM) experienced childhood sexual abuse and that adolescents with a history of being sexually abused by adults were more likely to use substances than their peers. ¹⁹
Homelessness or street involvement	Early experiences of homelessness may predict substance use in adolescents and young adults. ²⁰ Homelessness is associated with the use of a variety of substances, including alcohol, methamphetamine, and injection drug use. ¹⁶ Two studies of YMSM found that homelessness and running away from home were associated with substance use. ^{21,22}
Lesbian, gay, bisexual and transgendered (LGBT)	LGBT adolescents, especially lesbian and bisexual adolescents, have higher rates of substance use than heterosexual adolescents, but little information on the moderating or mediating factors is available. ²³ LGBT adolescents with other risk factors for substance use, including homelessness, residential instability, mental health diagnoses, peer substance use, and childhood abuse, have high rates of substance use. ^{19,21,22,24,25} Among YMSM, HIV-infected individuals may be more likely to use substances, especially methamphetamine, compared to their non-infected peers. ²⁶ Transgender adolescents are at risk for illicit hormone use (see <i>Care of the HIV-Infected Transgender Adolescent</i> at www.hivguidelines.org).
HIV-infected parents and family functioning	Family functioning plays a major role in predicting substance use in children of HIV-infected parents. ²⁷ In one large study, family functioning was disrupted frequently by substance use. Over one-half of children of HIV-infected parents were not in the parents' custody; the most common reason for non-parental custody was parental substance use. ²⁸ Children of HIV-infected parents have high rates of mental health diagnoses, placing them at additional risk for substance use. ²⁹
Parental substance use	Parental substance use predicts early and increased levels of alcohol and substance use in children and adolescents. ³⁰⁻³² Protective factors for adolescent substance use in families with parental substance use include close sibling relationships and parental disapproval of children's substance use. ^{32,33}
Incarceration	Adolescent incarceration is associated with increased substance use. ^{12,13}

Foster care	Evidence in this area is limited due to restrictions on research involving adolescents in the foster care system. However, available research shows that adolescents in foster care have higher rates of substance use than adolescents not in foster care. ³⁴ Substance use among those in foster care is especially common in adolescents who have mental health diagnoses. ^{35,36}
Early puberty	Early puberty is associated with both increased substance use and adolescent pregnancy. ³⁷
Adolescent pregnancy	Adolescent mothers use substances more often than their peers, and this difference persists into young adulthood. ³⁸
Peers who use substances	Peer influence is important in predicting substance use in adolescents, and adolescents who use substances are likely to have friends who also use substances. ^{2,39}
Educational experience	Lack of educational attainment or school attendance is a marker for substance use in adolescents. ⁴⁰ Inversely, some adolescents may experience pressure to increase their academic performance, which can place them at risk for using cognitive-enhancing substances, such as methylphenidate. ¹⁰
Body image and athletics	Some adolescents may experience pressure to alter their appearance through body-building or increase their athletic performance, both of which can place them at risk for using performance-enhancing substances, such as steroids. ¹¹
Tobacco use	Tobacco use has been consistently reported in adolescents receiving treatment for alcohol and substance dependence, ^{41,42} and adolescent smoking has been suggested as an indicator for both alcohol use and dependence. ^{43,44}

III. COMMUNICATING WITH ADOLESCENTS ABOUT SUBSTANCE USE

RECOMMENDATIONS:

Clinicians should convey a nonjudgmental attitude toward adolescents when discussing substance use and should use words and concepts appropriate to the patient’s cultural background and cognitive, linguistic, and emotional development.

Clinicians should reassure adolescent patients that discussions regarding substance use are confidential.

Trust between the patient and clinician is essential for an honest discussion that differentiates among experimentation, use, and abuse. To establish rapport and facilitate engagement, clinicians need to have a nonjudgmental attitude and use words and concepts appropriate to the patient’s cultural background and cognitive, linguistic, and emotional development. Effective communication with adolescents about substance use includes the following:

- *Assurances of confidentiality.* Adolescent patients are often concerned about confidentiality and about the consequences of providing honest answers to questions about substance use.
- *Rationale for screening.* An explanation of why the screening questions are important. This can help establish trust and enable clinicians to educate patients about the effects of substance use on the course of their HIV illness.
- *Common terminology.* Asking the patient what terms he/she uses, such as, *What do you call heroin? Do you have a name for being on ecstasy?*, can teach the healthcare provider what the adolescent knows about the drug scene and can help the clinician obtain information about the patient's experiences with and understanding about substance use. However, providers should avoid using slang terms unless they are very adept at working with this population; otherwise, this can seem patronizing, particularly because adolescents have been shown to understand conventional medical terminology.

Key Point:

Patients who are not ready to discuss substance use may develop trust in a clinician who demonstrates competence in addressing other challenges, such as housing instability or other case management needs. Once such trust is established, the patient may become comfortable with discussing substance use.

IV. BASELINE HISTORY AND SUBSTANCE USE SCREENING

RECOMMENDATIONS:

Clinicians should obtain a comprehensive history from adolescent patients that includes substance use and mental health screening and psychosocial assessment. Screening should include all levels of alcohol and substance use.

Clinicians should screen HIV-infected adolescents for substance use at baseline and every 3 months thereafter. If the HIV-infected adolescent's initial drug screening result is positive, or if the patient has a history of substance use, the clinician should re-evaluate the patient's drug use more frequently as needed.

As part of the history-taking process, clinicians should incorporate selected brief screening instruments and discuss the confidentiality of screening with HIV-infected adolescents. The chosen screening instruments should be individually tailored for optimal use at baseline and follow-up visits and adjusted for the patient's substance use history.

A comprehensive history is essential for identifying substance use, guiding management of patients with psychosocial stressors, and accurately establishing mental health diagnoses in HIV-infected adolescents. A nonjudgmental and caring approach to history-taking may elicit more accurate responses regarding sensitive issues, including substance use.

Key Point:

Screening for all levels of alcohol and other substance use in HIV-infected adolescents is important because:

- Both alcohol and substance use are risk factors for HIV transmission and STI acquisition
- Even intermittent use can interfere with adherence to medications,⁴ raise the risk of drug-drug interactions, and reduce the patient’s ability to practice safer sex

Substance use screening tools can be integrated easily into the primary care of adolescents. Some programs have their own screening tools with questions tailored to their clinic setting. A patient’s answers to the questions listed in Table 2 can provide useful information about his/her attitudes about and frequency of substance use and can help clinicians determine whether further substance use assessment is necessary.

TABLE 2
QUESTIONS TO ASSESS ATTITUDES ABOUT AND FREQUENCY OF SUBSTANCE USE*
<ul style="list-style-type: none">• Ask about current and past substance use in a nonjudgmental way<ul style="list-style-type: none">○ <i>Do you drink alcohol?</i>○ <i>Have you experimented with or used other drugs?</i>• Ask about specific substances (e.g., marijuana, alcohol, stimulants, opiates, and sedatives). Questions that target specific substances can elicit more accurate responses. For example:<ul style="list-style-type: none">○ <i>Did you smoke marijuana today, yesterday, recently?</i>○ <i>How many times do you smoke during the week?</i>○ <i>What do you like about it?</i>○ <i>What do you dislike about it?</i>• A question that specifically addresses over-the-counter and prescription medications is also important, such as cough syrup (i.e., dextromethorphan), ephedrine, cognitive stimulants (e.g., methylphenidate and other “study drugs”), anabolic steroids, prescription opiates, and benzodiazepines, as well as family members’ prescriptions that he/she may be able to access.• Patients who use multiple drugs may succeed at discontinuing the use of one drug while continuing to use others. Clinicians should phrase questions to inquire into the use of other substances as well.

* For information about specific substances, refer to [What Are These Drugs?](#)

Some clinicians may prefer validated tools. The SAMHSA Center for Substance Abuse Treatment (CSAT) TIP 31 guidelines [Screening and Assessing Adolescents for Substance Use Disorders](#) provide a list of recommended tools that are appropriate for adolescent substance use screening. Although screening tools with greater numbers of items have also been validated, brief screening instruments are preferable in the clinic setting because large-item screening tools may not be practical when time is limited. Additional information about substance use screening is also available in [Screening and Ongoing Assessment for Substance Use](#) as well as the [Quick Reference Substance Use Screening Card](#).

The selected tool should be tailored for optimal use at initial and follow-up visits and adjusted according to the patient's substance use history.

Key Points:

- Ongoing assessment is important. However, adolescent patients who express a lack of readiness to address the issue of substance use may not provide honest answers and may become alienated if they feel ongoing pressure to continually discuss the topic.
- Signs of social withdrawal or a sudden change in behavior or peer influences may be an indicator of substance use and require further assessment.

Unless there is a life-threatening medical emergency, drug testing should only be conducted with the knowledge and consent of the adolescent. The patient should be told that it is a part of the treatment plan and may provide useful information to the provider as well as a means for the patient to avoid use. However, laboratory tests yield a narrow range of information; severity of use and the consequences of that use cannot be obtained from testing for the presence of drugs in urine and blood.⁴⁵ Drug monitoring cannot substitute for an ongoing therapeutic alliance with the adolescent.

V. INTERVENTION STRATEGIES

For HIV-infected adolescents, substance use is often just one problem among many psychosocial problems that need to be addressed.⁴⁶ For some adolescents, substance use may be a transient reaction to learning that they are HIV-infected or may be a result of parental substance use. Substance use may also be a result of an untreated or undertreated mental health diagnosis (see [Mental Health Disorders Among Substance-Using HIV-Infected Patients](#)). Information about mental health screening and treatment is available in the [Mental Health Guidelines](#).

Determination of the most appropriate intervention for an individual recognizes the context of the HIV-infected adolescent's chronicity of use and degree of dependence. The American Society of Addiction Medicine criteria can help clinicians determine which patients have serious problems that require a higher level of substance use intervention.⁴⁷ Resources are also available for educating clinicians about substance use treatment and referral (see Section X: *Resources for Adolescent Substance Use Treatment*).

The strategies outlined below have been used primarily as interventions for alcohol, marijuana, and opioid use in adolescents. Unfortunately, the efficacy of such interventions for addressing adolescent methamphetamine use has not been determined. Because methamphetamine dependence often requires psychotherapeutic intervention, methamphetamine programs for adolescents are needed. Cognitive-behavioral approaches that have demonstrated promising results in adults, such as the Matrix Model,⁴⁸ have not yet been adapted for adolescents, and

pharmacotherapy for methamphetamine has not been established for either adults or adolescents. At the present time, standard youth intervention programs, such as those discussed below, are likely to be more appropriate for adolescents than methamphetamine programs for older adults.

A. Harm-Reduction Approach

RECOMMENDATION:

Clinicians should use harm-reduction principles for adolescents who are not ready, or not willing, to make abstinence a goal. Such harm-reduction strategies include counseling adolescents to reduce harmful use, such as binge-drinking, heavy or daily marijuana use, and polydrug use, as well as referring injection drug-using adolescents and young adults to syringe exchange programs.

The American Academy of Child and Adolescent Psychiatry (1997) defines harm reduction as a decrease in the use and adverse effects of substances, a reduction in the severity and frequency of relapses, and improvement in one or more areas of the adolescent's functioning, including academic achievement or family functioning. Harm reduction is intended to engage the patient in health care through the clinician's nonjudgmental stance toward the patient's current substance use. Adolescents who are not ready or who are unwilling to abstain from alcohol or other substances may be receptive to education and encouragement from a clinician who focuses on reducing harmful use instead of insisting on abstinence. Such education can include:

- Caution against binge-drinking, heavy or daily marijuana use, and polydrug use, with a focus on educating patients about the risk of drug-drug interactions, both between substances and between substances and HIV medications, and the health effects of heavy substance use
- Encouragement of behaviors that reduce HIV transmission risk, such as not sharing equipment used for administering substances, including straws for snorting and equipment for injecting substances, and referral to syringe access exchange programs as available

Harm reduction is developmentally appropriate for adolescents who consider some level of substance use normative in their peer group, because the approach emphasizes safety if the patient is using, rather than lifetime abstinence.⁴⁹

Refer to [Working With the Active User](#) for more information regarding harm-reduction strategies.

B. Brief Interventions

RECOMMENDATION:

Clinicians should implement brief interventions for HIV-infected adolescents when a problem with substance use is identified.

Brief interventions are short-term, less intensive alternatives to traditional substance use treatment modalities. These interventions share a common goal of enhancing a person’s motivation and ability to change. Information about risks of substance use, means to reduce problems related to use, benefits to reducing use, and referrals to more extensive services are usually included in brief interventions. Because brief interventions have been shown to be effective in reducing substance use and substance-related harms in adolescents, including use of alcohol,⁵⁰ marijuana,^{51,52} and other drugs,^{53,54} clinicians should implement brief interventions when a problem with substance use is identified.

Time limitations and limited provider training have been identified as barriers to effective use of brief interventions.⁵⁵ It has been suggested that all healthcare providers, including nurses, may effectively implement brief interventions.

Preliminary research indicates brief interventions may not be as effective for reducing cigarette smoking as for reducing alcohol, marijuana, and other substance use.⁵¹ Mixed results with some populations at high risk for problem substance use, including homeless adolescents, indicate that there is a need for further research and alternative interventions for reduction of substance use and its harms during adolescence.

Refer to [Working With the Active User](#) for more information regarding brief interventions.

1. Motivational Interviewing

Motivational interviewing is a brief psychotherapeutic intervention to increase the likelihood of a patient’s consideration, initiation, and maintenance of specific change strategies to reduce harmful behavior. Motivational interviewing is one type of brief intervention shown to be effective with adolescents.⁵² Table 3 shows the four components of a motivational interview. More information on motivational interviewing, training, and a video on motivational interviewing for adolescents who use marijuana are available at [Motivational Interviewing](#).

TABLE 3	
KEY COMPONENTS OF MOTIVATIONAL INTERVIEWING	
Component	Involves
Expressing empathy	Understanding and being aware of and sensitive to the feeling, thoughts, and experiences of another. Accomplished through reflective listening.
Supporting self-efficacy	Supporting the patient with the sense that an individual can identify and meet one’s needs and goals.
Avoiding argumentation and rolling with resistance	Listening to the patient’s resistance to change. Working collaboratively with the patient to develop his/her input regarding the treatment plan.
Discovering discrepancies	Helping patients identify discrepancies between their current behavior and desired future behavior.

2. Motivational Enhancement Therapy

Motivational *enhancement* therapy is a brief intervention that combines motivational interviewing with cognitive-behavioral techniques, such as problem-solving. A four-session motivational enhancement therapy intervention for HIV-infected adolescents and young adults aged 16 to 25 was shown to be effective in reducing alcohol use. It was also associated with improved health outcomes, such as a reduction in HIV viral load.^{56,57}

C. Group Interventions

Adolescents may prefer group treatment over other options for substance use treatment. Group interventions using a cognitive-behavioral approach have been shown to be effective in lowering rates of substance use among HIV-infected adolescent participants.⁵⁸ These cognitive-behavioral strategies emphasize how contextual and environmental factors can influence adolescents' response to stressful situations, including problem-solving and social-negotiating strategies. Group interventions for substance use have been developed for HIV-infected adolescents and provide risk education and social-negotiating and problem-solving training (for more information, see [Diffusion of Effective Behavioral Intervention](#)).

In most studies, group interventions were not associated with negative outcomes.^{59,60} Group interventions may be challenging to implement in some areas, due to scheduling and confidentiality concerns. Telephone and internet-based groups have been suggested as alternatives to the traditional group format.⁶¹

D. Pharmacotherapy

With the exception of opioid agonist therapy and smoking cessation, the efficacy of pharmacotherapy for substance use has not been well established in adolescents.

Pharmacotherapy for Opioid Dependence

RECOMMENDATION:

Clinicians should refer injection drug-using adolescents for opioid-dependence treatment or more intensive levels of care as appropriate, such as extended counseling and case management.

Among adults, methadone maintenance has been shown to be highly efficacious in reducing heroin use, reducing HIV risk behaviors, and supporting ARV treatment adherence.^{62,63} A review of existing studies of adolescents found that methadone has the highest retention rate over other modalities and may be more effective in reducing illicit drug use.⁶⁴ However, many methadone maintenance programs lack resources for addressing co-occurring psychosocial and mental health concerns in adolescents. For patients who stay in treatment for at least 6 months, other modalities, including therapeutic communities and abstinence-based treatment with and without

naltrexone, have the best long-term outcomes, with greater reductions in the use of opiates and other substances, as well as increased rates of employment.⁶⁴ Although therapeutic communities and abstinence-based treatment may have greater success in helping patients with long-term adjustment, these programs have a lower initial retention rate in comparison with methadone maintenance.

Many opioid dependence treatment facilities, including methadone maintenance programs, do not accept individuals who are younger than 18 years of age. For facilities that do treat individuals younger than 18, Federal law requires two documented failures of drug-free detoxification and verification of 2 years of opioid dependence before admission.

Buprenorphine prescribed by an ambulatory care clinician may be a suitable alternative to illicit opioid use for many adolescents. Buprenorphine may also be used both for maintenance and for detoxification and appears to have similar benefits to methadone with several advantages, including:

- It can be prescribed by any physician who has taken an 8-hour course, rather than only in specialized clinics
- As a partial agonist, it has a higher safety profile
- One formulation, Suboxone, includes naloxone to reduce the misuse of buprenorphine

For more information regarding treatment with buprenorphine, refer to [Appendix VI](#).

Pharmacotherapy for Smoking Cessation

Cessation of smoking among adolescents may reduce their risk for future substance dependence, particularly alcohol dependence.⁴³ For information regarding pharmacotherapy for smoking cessation, see [Smoking Cessation in HIV-Infected Patients](#).

VI. MENTAL HEALTH TREATMENT

RECOMMENDATION:

HIV-infected adolescents with co-occurring substance use and mental health diagnoses should be carefully assessed for psychotropic management of their mental health diagnosis.

Effective psychotropic management of co-occurring mental health diagnoses can often aid in reducing substance use, including alcohol and marijuana. Adolescents with comorbid mental health diagnoses, especially depression and bipolar disorder, generally decrease their use of substances, including alcohol and marijuana, when they received psychotropic management for their mental health diagnosis.⁶⁵ Accordingly, adolescents with co-occurring mental health diagnoses should be assessed for psychotropic management.

For additional information regarding mental health considerations for substance users, refer to [Mental Health Disorders Among Substance-Using HIV-Infected Patients](#).

VII. REFERRAL FOR SUBSTANCE USE TREATMENT

RECOMMENDATIONS:

Clinicians should have access to experienced case managers who can address the multiple disciplines involved in working with HIV-infected substance-using adolescents.

Clinicians should recognize that many adolescents do not know about substance use intervention services or how to access them.

With the patient's consent, substance use programs should make every effort to involve the adolescent's family and supportive adults in their care when appropriate.

Substance use programs and HIV care providers should collaborate in the development of treatment plans for adolescents who are engaged in both types of care.

Adolescents often do not know where they can obtain mental health and substance use services in their community and are seldom motivated to self-refer to substance use treatment. Typically, they are referred by a parent, clinician, juvenile justice, school, child welfare, or other government/community agency.

Linking HIV-infected adolescents to appropriate adolescent-specific drug treatment is difficult because few programs specialize in the needs of adolescents, and adult programs that do accept young adults 18 years of age and older may not be sensitive to the numerous other needs of an HIV-infected adolescent. Barriers to care include lack of financial resources and/or insurance and mistrust of healthcare professionals. Some HIV-infected adolescents who are addicted to substances may not require rehabilitative strategies as much as they require strategies that enable them to develop life skills.

The SAMHSA Center for Substance Abuse Treatment (CSAT) TIP 32 guidelines, [*Treatment of Adolescents with Substance Use Disorders*](#),⁶⁶ emphasize the differences between treating adults and adolescents and discuss treatment options that emphasize adolescents' special needs, including attention to their cognitive, emotional, and social development. CSAT has also published a comprehensive description of the continuum of adolescent treatment options based on multiple client assessment criteria.⁶⁶ Familiarity with the following treatment levels can enable clinicians to individualize the appropriate level of treatment for each patient:

- Outpatient
- Intensive outpatient options
- Long-term residential psychosocial care (therapeutic communities)
- Half-way houses
- Group home living arrangements for adolescents who have experienced significant drug abuse

Some adolescents, especially those in the earlier stages of dependence who have supportive families and less severe coexisting problems, respond better in outpatient environments, where they can maintain their academic and family lives. Hospitalization may be indicated in some cases (see Table 4).

A list of community resources should be easily accessible to HIV-infected adolescents visiting the clinic setting. One resource for locating substance use treatment programs for adolescents is the [SAMHSA Substance Abuse Treatment Facility Locator](#).

TABLE 4
INDICATIONS FOR HOSPITALIZATION OF HIV-INFECTED SUBSTANCE-USING ADOLESCENTS
<ul style="list-style-type: none"> • Overdose that cannot be safely treated in the outpatient or emergency room setting (e.g., severe respiratory depression, coma) • Risk for a severe or complicated withdrawal syndrome, including dependence on multiple drugs, history of delirium tremens • Acute or chronic medical conditions that make detoxification in a residential or ambulatory setting unsafe • A documented history of not engaging in, or benefiting from, treatment in a less intensive setting • Marked psychiatric comorbidity with an acute danger to self or others • No response to less intensive treatment efforts • Substance use poses an ongoing threat to own physical and mental health

VIII. MAINTAINING THE SUBSTANCE-USING ADOLESCENT IN CARE

RECOMMENDATIONS:

Clinicians should ensure that HIV-infected adolescents are engaged in medical care regardless of whether or not they are actively using drugs.

Clinicians should include substance-using HIV-infected adolescents in the medical treatment planning process as early as possible.

Patients with comorbid substance use and HIV infection are more likely to leave medical treatment when they are given treatment goals that they are not ready to accept. The inclusion of patients early in the planning process of medical treatment may lead to more successful outcomes. Medical treatment goals will vary according to the adolescent’s needs, which will depend on his/her level of family support and pattern of use of alcohol and other substances. However, if a patient does not fully understand his/her HIV diagnosis and management, he/she may not be able to achieve the desired clinical outcome. In such cases, clinicians may need to address the patient’s substance use before engaging him/her in medical care.

For additional information about maintaining substance-using patients in care, refer to [Working With the Active User](#).

IX. RELAPSE PREVENTION

RECOMMENDATIONS:

Clinicians should coordinate with relapse prevention programs and mental health care providers when caring for HIV-infected adolescents with a history of substance or alcohol dependence.

Clinicians should ask HIV-infected patients in early recovery at each visit about the date of last use of substances, alcohol, and tobacco.

By definition, recovery from substance use behavior can be interrupted by periods of relapse. Relapse is defined by the American Society of Addiction Medicine as the “recurrence of psychoactive substance-dependent behavior in an individual who has previously achieved and maintained abstinence for a significant period of time beyond withdrawal.”⁴⁷

Patients with a known history of substance/alcohol dependence are at high risk for relapse, particularly when stressed by a new diagnosis of HIV or its complications. Clinicians should collaborate with relapse prevention programs and mental health providers as part of the overall care of patients with a history of substance or alcohol dependence. Relapse in patients who are in early recovery can be better identified when patients are asked at each visit about the date of last use of substances, alcohol, and tobacco at each visit.

Relapse is not a failure but an opportunity to learn from what happened and to change tactics to more effectively prevent future relapse.

When a patient relapses, the clinician should:

- Be nonjudgmental and voice continued optimism
- Ask what the specific circumstances were that led to the relapse
- Encourage a return to treatment
- Discuss difficulties and stresses
- Reassess the need to initiate pharmacotherapy or adjust doses
- Refer to or include other providers, such as social workers, in the patient’s care
- Schedule more frequent visits

For additional information regarding relapse prevention, see [Working With the Active User](#).

X. RESOURCES FOR ADOLESCENT SUBSTANCE USE TREATMENT

- **[Daytop](#)**: Adolescent treatment programs based on therapeutic community concept. Residential and daycare programs are offered.
- **[New Directions](#)**: A substance use residential program that offers individual, group, and family services. A division of the Brooklyn Center for Psychotherapy, Inc.
- **[Odyssey House, Inc.](#)**: Enhanced therapeutic community providing residential and other substance use treatment services for individuals and families.
- **[Phoenix House](#)**: Offers residential and outpatient substance use treatment services to adolescents and adults.
- **[Promesa, Inc.](#)**: Provides residential and outpatient substance use treatment services, as well as medical and educational services. A subsidiary of Promesa Systems.
- **[Safe Horizon's Streetwork Project](#)**: Provides a range of services to street-involved youth, including case management, referral services, legal, medical, mental health, and substance use services.
- **[SAMSHA Substance Abuse Facility Treatment Locator](#)**: Search tool for locating substance use treatment services.
- **[Vertex Outpatient](#)**: Program that provides outpatient counseling and other substance use treatment and other services.

REFERENCES

1. Kendler KS, Schmitt E, Aggen SH, et al. Genetic and environmental influences on alcohol, caffeine, cannabis, and nicotine use from early adolescence to middle adulthood. *Arch Gen Psychiatry* 2008;65:674-682. [[Abstract](#)]
2. Simons-Morton B. Social influences on adolescent substance use. *Am J Health Behav* 2007;31:672-684. [[Abstract](#)]
3. National Institute on Drug Abuse. Monitoring the Future: National Survey Results on Drug Use, 1975-2007. Bethesda, MD: National Institute on Drug Abuse, US Department of Health and Human Services; 2008. Available at: www.monitoringthefuture.org/pubs.html
4. Pao M, Lyon M, D'Angelo LJ, et al. Psychiatric diagnoses in adolescents seropositive for the human immunodeficiency virus. *Arch Pediatr Adolesc Med.* 2000;154:240-244. [[Abstract](#)]
5. Wilson CM, Houser J, Partlow C, et al. The REACH (Reaching for excellence in adolescent care and health) Project: Study design, methods, and population profile. *J Adolesc Health* 2001;29S:8-18. [[Abstract](#)]
6. Lightfoot M, Swendeman D, Rotheram-Borus MJ, et al. Risk behaviors of youth living with HIV: Pre- and post-HAART. *Am J Health Behav* 2005;29:162-171. [[Abstract](#)]
7. Rotheram-Borus MJ, Lee M, Zhou S, et al. Variation in health and risk behavior among youth living with HIV. *AIDS Educ Prev* 2001;13:42-54. [[Abstract](#)]
8. Levine DA. "Pharming": The abuse of prescription and over-the-counter drugs in teens. *Curr Opin Pediatr* 2007;19:270-274. [[Abstract](#)]
9. Iritani BJ, Hallfors DD, Bauer DJ. Crystal methamphetamine use among young adults in the USA. *Addiction* 2007;102:1102-1113. [[Abstract](#)]
10. Wilens TE, Adler LA, Adams J, et al. Misuse and diversion of stimulants prescribed for ADHD: A systematic review of the literature. *J Am Acad Child Adolesc Psychiatry* 2008;47:21-31. [[Abstract](#)]
11. Castillo EM, Comstock RD. Prevalence of use of performance-enhancing substances among United States adolescents. *Pediatr Clin North Am* 2007;54:663-675. [[Abstract](#)]
12. Tolou-Shams M, Brown LK, Houck C, et al.; Project SHIELD Study Group. The association between depressive symptoms, substance use, and HIV risk among youth with an arrest history. *J Stud Alcohol Drugs* 2008;69:58-64. [[Abstract](#)]
13. Tolou-Shams M, Brown LK, Gordon G, et al; Project SHIELD Study Group. Arrest history as an indicator of adolescent/young adult substance use and HIV risk. *Drug Alcohol Depend* 2007;88:87-90. [[Abstract](#)]
14. Elkins IJ, McGue M, Iacono WG. Prospective effects of attention-deficit/hyperactivity disorder, conduct disorder, and sex on adolescent substance use. *Arch Gen Psychiatry* 2007;64:1145-1152. [[Abstract](#)]
15. Dunlap E, Golub A, Johnson BD. Girls' sexual development in the inner city: From compelled childhood sexual contact to sex-for-things exchanges. *J Child Sex Abus* 2003;12:73-96. [[Abstract](#)]
16. Coady MH, Latka MH, Thiede H, et al. Housing status and associated differences in HIV risk behaviors among young injection drug users (IDUs). *AIDS Behav* 2007;11:854-863. [[Abstract](#)]

17. Arata CM, Langhinrichsen-Rohling J, Bowers D, et al. Differential correlates of multi-type maltreatment among urban youth. *Child Abuse Negl* 2007;31:393-415. [[Abstract](#)]
18. Eaton DK, Davis KS, Barrios L, et al. Associations of dating violence victimization with lifetime participation, co-occurrence, and early initiation of risk behaviors among U.S. high school students. *J Interpers Violence* 2007;22:585-602. [[Abstract](#)]
19. Brennan DJ, Hellerstedt WL, Ross MW, et al. History of childhood sexual abuse and HIV risk behaviors in homosexual and bisexual men. *Am J Public Health* 2007;97:1107-1112. [[Abstract](#)]
20. Johnson TP, Fendrich M. Homelessness and drug use: Evidence from a community sample. *Am J Prev Med* 2007;32(6 Suppl):S211-S218. [[Abstract](#)]
21. LaLota M, Kwan BW, Waters M, et al. The Miami, Florida, Young Men's Survey: HIV prevalence and risk behaviors among urban young men who have sex with men who have ever runaway. *J Urban Health* 2005;82:327-338. [[Abstract](#)]
22. Kipke MD, Weiss G, Wong CF. Residential status as a risk factor for drug use and HIV risk among young men who have sex with men. *AIDS Behav* 2007;11(6 Suppl):56-69. [[Abstract](#)]
23. Marshal MP, Friedman MS, Stall R, et al. Sexual orientation and adolescent substance use: A meta-analysis and methodological review. *Addiction* 2008;103:546-556. [[Abstract](#)]
24. Rosario M, Schrimshaw EW, Hunter J. Predictors of substance use over time among gay, lesbian, and bisexual youths: An examination of three hypotheses. *Addict Behav* 2004;29:1623-1631. [[Abstract](#)]
25. Cochran BN, Stewart AJ, Ginzler JA, et al. Challenges faced by homeless sexual minorities: Comparison of gay, lesbian, bisexual, and transgender homeless adolescents with their heterosexual counterparts. *Am J Public Health* 2002;92:773-777. [[Abstract](#)]
26. Garofalo R, Mustanski BS, McKirnan DJ, et al. Methamphetamine and young men who have sex with men: Understanding patterns and correlates of use and the association with HIV-related sexual risk. *Arch Pediatr Adolesc Med* 2007;161:591-596. [[Abstract](#)]
27. Rosenblum A, Magura S, Fong C, et al. Substance use among young adolescents in HIV-affected families: Resiliency, peer deviance, and family functioning. *Subst Use Misuse* 2005;40:581-603. [[Abstract](#)]
28. Cowgill BO, Beckett MK, Corona R, et al. Children of HIV-infected parents: Custody status in a nationally representative sample. *Pediatrics* 2007;120:e494-e503. [[Abstract](#)]
29. Pilowsky DJ, Zybert PA, Hsieh PW, et al. Children of HIV-positive drug-using parents. *J Am Acad Child Adolesc Psychiatry* 2003;42:950-956. [[Abstract](#)]
30. Walden B, Iacono WG, McGue M. Trajectories of change in adolescent substance use and symptomatology: Impact of paternal and maternal substance use disorders. *Psychol Addict Behav* 2007;21:35-43. [[Abstract](#)]
31. Ohannessian CM, Hesselbrock VM. Paternal alcoholism and youth substance use: The indirect effects of negative affect, conduct problems, and risk taking. *J Adolesc Health* 2008;42:198-200. [[Abstract](#)]
32. Ohannessian CM, Hesselbrock VM. Do personality characteristics and risk taking mediate the relationship between paternal substance dependence and adolescent substance use? *Addict Behav* 2007;32:1852-1862. [[Abstract](#)]

33. Lam WK, Cance JD, Eke AN, et al. Children of African-American mothers who use crack cocaine: Parenting influences on youth substance use. *J Pediatr Psychol* 2007;32:877-887. [[Abstract](#)]
34. White CR, O'Brien K, White J, et al. Alcohol and drug use among alumni of foster care: Decreasing dependency through improvement of foster care experiences. *J Behav Health Serv Res* 2008;35:419-434. [[Abstract](#)]
35. Pilowsky DJ, Wu LT. Psychiatric symptoms and substance use disorders in a nationally representative sample of American adolescents involved with foster care. *J Adolesc Health* 2006;38:351-358. [[Abstract](#)]
36. Vaughn MG, Ollie MT, McMillen JC, et al. Substance use and abuse among older youth in foster care. *Addict Behav* 2007;32:1929-1635. [[Abstract](#)]
37. Deardorff J, Gonzales NA, Christopher FS, et al. Early puberty and adolescent pregnancy: The influence of alcohol use. *Pediatrics* 2005;116:1451-1456. [[Abstract](#)]
38. Gillmore MR, Gilchrist L, Lee J, et al. Women who gave birth as unmarried adolescents: Trends in substance use from adolescence to adulthood. *J Adolesc Health* 2006;39:237-243. [[Abstract](#)]
39. Mason WA, Hitchings JE, McMahan RJ, et al. A test of three alternative hypotheses regarding the effects of early delinquency on adolescent psychosocial functioning and substance involvement. *J Abnorm Child Psychol* 2007;35:831-843. [[Abstract](#)]
40. King KM, Meehan BT, Trim RS, et al. Marker or mediator? The effects of adolescent substance use on young adult educational attainment. *Addiction* 2006;101:1730-1740. [[Abstract](#)]
41. Myers MG, Kelly JF. Cigarette smoking among adolescents with alcohol and other drug use problems. *Alcohol Res Health* 2006;29:221-227. [[Abstract](#)]
42. Myers MG, Doran NM, Brown SA. Is cigarette smoking related to alcohol use during the 8 years following treatment for adolescent alcohol and other drug abuse? *Alcohol Alcohol* 2007;42:226-233. [[Abstract](#)]
43. Orlando M, Tucker JS, Ellickson PL, et al. Concurrent use of alcohol and cigarettes from adolescence to young adulthood: An examination of developmental trajectories and outcomes. *Subst Use Misuse* 2005;40:1051-1069. [[Abstract](#)]
44. Mathers M, Toumbourou JW, Catalano RF. Consequences of youth tobacco use: A review of prospective behavioural studies. *Addiction* 2006;101:948-958. [[Abstract](#)]
45. Casavant MJ. Urine drug screening in adolescents. *Pediatr Clin North Am* 2002;49:317-327. [[Abstract](#)]
46. Jessor R. Risk behavior in adolescence: A psychosocial framework for understanding and action. *J Adolesc Health* 1991;12:597-605. [[Abstract](#)]
47. American Society of Addiction Medicine. *Patient Placement Criteria*. Available at www.asam.org/PatientPlacementCriteria.html
48. Shoptaw S, Rawson RA, McCann MJ, et al. The Matrix model of outpatient stimulant abuse treatment: Evidence of efficacy. *J Addict Dis* 1994;13:129-141. [[Abstract](#)]

49. Masterman PW, Kelly AB. Reaching adolescents who drink harmfully: Fitting intervention to developmental reality. *J Substance Abuse Treatment* 2003;24:347-355. [[Abstract](#)]
50. Gray E, McCambridge J, Strang J. The effectiveness of motivational interviewing delivered by youth workers in reducing drinking, cigarette and cannabis smoking among young people: Quasi-experimental pilot study. *Alcohol Alcohol* 2005;40:535-539. [[Abstract](#)]
51. McCambridge J, Strang J. The efficacy of single-session motivational interviewing in reducing drug consumption and perceptions of drug-related risk and harm among young people: Results from a multi-site cluster randomized trial. *Addiction* 2004;99:39-52. [[Abstract](#)]
52. Martin G, Copeland J. The adolescent cannabis check-up: Randomized trial of a brief intervention for young cannabis users. *J Subst Abuse Treat* 2008;34:407-414. [[Abstract](#)]
53. Tait RJ, Hulse GK. A systematic review of the effectiveness of brief interventions with substance using adolescents by type of drug. *Drug Alcohol Rev* 2003;22:337-346. [[Abstract](#)]
54. Tevyaw TO, Monti PM. Motivational enhancement and other brief interventions for adolescent substance abuse: Foundations, applications and evaluations. *Addiction* 2004;99(Suppl 2):63-75. [[Abstract](#)]
55. Roche AM, Freeman T. Brief interventions: Good in theory but weak in practice. *Drug Alcohol Rev* 2004;23:11-18. [[Abstract](#)]
56. Naar-King S, Wright K, Parsons JT, et al. Healthy Choices: Motivational enhancement therapy for health risk behaviors in HIV-positive youth. *AIDS Educ Prev* 2006;18:1-11. [[Abstract](#)]
57. Naar-King S, Lam P, Wang B, et al. Brief report: Maintenance of effects of motivational enhancement therapy to improve risk behaviors and HIV-related health in a randomized controlled trial of youth living with HIV. *J Pediatr Psychol* 2008;33:441-445. [[Abstract](#)]
58. Rotheram-Borus MJ, Lee MB, Murphy DA, et al. Efficacy of a preventive intervention for youths living with HIV. *Am J Public Health* 2001;91:400-405. [[Abstract](#)]
59. Kaminer Y. Challenges and opportunities of group therapy for adolescent substance abuse: A critical review. *Addict Behav* 2005;30:1765-1774. [[Abstract](#)]
60. French MT, Zavala SK, McCollister KE, et al. Cost-effectiveness of four interventions for adolescents with a substance use disorder. *J Subst Abuse Treat* 2008;34:272-281. [[Abstract](#)]
61. Lightfoot M, Rotheram-Borus MJ, Tevendale H. An HIV-preventive intervention for youth living with HIV. *Behav Modif* 2007;31:345-363. [[Abstract](#)]
62. Joseph H, Stancliff S, Langrod J. Methadone maintenance treatment (MMT): A review of historical and clinical issues. *Mt Sinai J Med* 2000;67:347-364. [[Abstract](#)]
63. Altice FL, Sullivan LE, Smith-Rohrberg D, et al. The potential role of buprenorphine in the treatment of opioid dependence in HIV-infected individuals and in HIV infection prevention. *Clin Infect Dis*. 2006;43(Suppl 4):S178-S183. [[Abstract](#)]
64. Hopfer CJ, Khuri E, Crowley TJ, et al. Adolescent heroin use: A review of the descriptive and treatment literature. *J Subst Abuse Treat* 2002;23:231-237. [[Abstract](#)]
65. Waxmonsky JG, Wilens TE. Pharmacotherapy of adolescent substance use disorders: A review of the literature. *J Child Adolesc Psychopharmacol* 2005;15:810-825. [[Abstract](#)]

66. McLellan T, Dembo R. Screening and Assessment of Alcohol- and Other Drug-Abusing Adolescents. Rockville, MD: US Dept of Health and Human Services; 1993. Treatment improvement protocol (TIP) series. Substance Abuse and Mental Health Services Administration, Center for Substance Abuse Treatment. DHHS Publication No. (SMA) 93-2009. Available at: www.ncbi.nlm.nih.gov/books/bv.fcgi?rid=hstat5.chapter.56031

FURTHER READING

Knight JR, Sherritt L, Shrier LA, et al. Validity of the CRAFFT substance abuse screening test among adolescent clinic patients. *Arch Pediatr Adolesc Med* 2002;156:607-614. [[Abstract](#)]

Murphy DA, Marelich WD, Hoffman D, et al. Predictors of antiretroviral adherence. *AIDS Care* 2004;16:471-484. [[Abstract](#)]

Toumbourou JW, Stockwell T, Neighbors C, et al. Interventions to reduce harm associated with adolescent substance use. *Lancet* 2007;369:1391-1401. [[Abstract](#)]