



Crossing the line

When does teen substance use become abuse or dependence?

Many adolescents are 'diagnostic orphans,' whose behavior falls short of DSM-IV criteria but clearly shows substance use patterns.

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Assessing an adolescent for a possible substance use disorder can be streamlined by choosing age-appropriate screening tools and asking targeted questions. Based on our experience, we offer a 4-step approach to these at-risk patients' (*Box*) that focuses on:

- quantifying alcohol or drug abuse and/or dependence
- identifying and treating psychiatric comorbidity
- evaluating and addressing social influences that contribute to substance use
- assessing negative consequences associated with substance abuse.

continued



Box

Portrait of adolescent substance abuse

Adolescent substance use increases the risk of motor vehicle accidents, suicide, transmission of HIV and other sexual diseases, criminal behaviors, and psychological problems. Alcohol and marijuana are the substances most commonly abused by adolescents.

In 2002, the University of Michigan Institute for Social Research’s annual “Monitoring the Future” study reported:

- **drunkenness** in 7% of 8th graders, 18% of 10th graders, and 30% of 12th graders at least once in the previous 30 days.
- **illicit drug use** by 18% of 8th graders, 35% of 10th graders, and 41% of 12th graders in the previous 12 months.

Boys used substances more frequently than girls, and boys’ use was more severe. Within the previous month, boys reported greater alcohol use, binge drinking (five or more drinks in one sitting), and heavy drinking, as well as greater illicit drug use in the past year.¹

INITIAL EVALUATION

Adolescents generally do not seek substance abuse treatment but are referred because of alcohol- or drug-related legal, school, or family prob-

Adolescents who begin using alcohol or drugs develop dependence more rapidly than adults do

lems. Thus, most present for evaluation with their parents, legal guardians, or officers of the court.

We begin by finding out from parents or guardians the reasons for the evaluation, their perspectives on the adolescent’s behavior, and their expectations of treatment. Then we interview the adolescent alone, assessing for substance use and evaluating peer relationships.

Components. A typical initial evaluation takes 90 minutes to 2 hours and includes:

- psychiatric history and symptoms

- medical history
- previous hospitalizations (medical and psychiatric)
- family history
- social history.

Specifically, the assessment focuses on the reason for the evaluation, with attention to diagnostic criteria for substance use/dependence.

STEP 1: QUANTIFYING DEPENDENCE

As with adults, clinical diagnosis of substance abuse or dependence in adolescents is based on DSM-IV diagnostic criteria (*Table 1*). Adolescents, however, differ from adults in diagnostic presentation, risk of dependence, and patterns of substance use.

Diagnostic ‘orphans.’ DSM-IV criteria for alcohol use disorders have limitations in adolescents.²Teens who report

one or two dependence symptoms and no abuse symptoms have been described as “diagnostic orphans”³—they fall short of criteria for dependence or abuse but clearly demonstrate substance

use patterns. This presentation is common; in a survey of 74,008 high school students, almost 10% of 12th graders

reported one or two dependence symptoms and no abuse symptoms.⁴

Risk of dependence. Adolescents who begin using alcohol or drugs develop dependence more rapidly than adults do.⁵

Patterns of use. Adolescents are more likely than adults to binge with alcohol and drugs, which may conceal the severity of their abuse. DSM-IV diagnostic criteria for substance abuse or dependence do not consider quantity of use, such as number of drinks or percent of days drinking or using drugs.

Assessment instruments. Many assessment instruments are available to explore adolescent substance use and its associated consequences. Some are described in detail and are available on the Internet. Common screening instruments that can be used for adolescent substance use are compared in *Table 2*.

DUSI-A and POSIT. Two self-report instruments—Drug Use Screening Inventory-Adolescents (DUSI-A)⁶ and Problem Oriented Screening Instrument for Teenagers (POSIT)⁷—can help explore alcohol or drug use in teens who admit to substance use. Anyone who endorses at least one DSM-IV abuse or dependence criterion requires further evaluation. Either test is a good starting point, and both have a built-in “lie” scale.

T-ASI and CASI. The Teen Addiction Severity Index (T-ASI)⁸ and Comprehensive Adolescent Severity Inventory (CASI)⁹ are more labor-intensive and require training to administer. These assessments are more appropriate for adolescents with extensive alcohol or drug abuse.

A-OCDS and Deas-MOCS. Our group recently developed the Adolescent Obsessive Compulsive Drinking Scale (A-OCDS)¹⁰ and the Deas-Marijuana Obsessive Compulsive Scale (Deas-MOCS).¹¹

These self-report instruments have been validated in treatment- and nontreatment-seeking adolescents and young adults in inpatient and outpatient populations. They are sensitive and specific in identifying problem drinkers and marijuana users, respectively, and are quick, useful screens to determine need for further assessment.

Toxicology is useful for initial assessment and to monitor substance use patterns during treatment.

Urine samples are used to assess marijuana, sedative/hypnotic, amphetamine, cocaine, opiate,

Table 1

Diagnostic criteria for substance abuse and dependence

Substance abuse	<p>1 of these 4 symptoms in a 12-month period:</p> <ul style="list-style-type: none"> Role impairment Hazardous use Legal problems associated with use Social problems
Substance dependence	<p>At least 3 of the following:</p> <ul style="list-style-type: none"> Tolerance Withdrawal Using more or longer than intended Attempting to quit or cut down Much time spent using Activities given up to use Psychological/physical problems resulting from use <p>Subtyped as with or without physiologic features (tolerance or withdrawal symptoms)</p>

Source: DSM-IV-TR

and phencyclidine use. Alcohol may be detected in urine, but alcohol levels detected by blood and breath testing are more accurate.

Marijuana may be detected in the urine for 3 days to 4 weeks, depending on level of use. Cocaine can be detected for 2 to 4 days in urine and longer in hair analysis.

Random screening. Adolescents who use drugs usually know how long substances can be detected, so random urine drug screening is important to treatment progress. We inform adolescents at the beginning of treatment that random screening will be performed to corroborate self-report of substance use. To ensure a reliable urine sample, same-gender staff observe while the adolescent gives the sample.

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Table 2

Common screening instruments for alcohol and drug use in adolescents

Instrument	Items (#)	How administered	Administration time
Drug Use Screening Inventory (DUSI-R), Revised	159	Self-report	20 to 40 minutes
Problem-Oriented Screening Instrument for Teenagers (POSIT)	139	Self-report	20 to 30 minutes
Teen Addiction Severity Index (T-ASI)	133	Clinician	20 to 45 minutes
Comprehensive Adolescent Severity Inventory (CASI)	245	Clinician	Varies with experience of administrator
Adolescent Obsessive-Compulsive Drinking Scale (A-OCDS)	14	Self-report	About 5 minutes
Deas-Marijuana Obsessive-Compulsive Scale (Deas-MOCS)	14	Self-report	About 5 minutes

STEP 2: IDENTIFYING PSYCHIATRIC COMORBIDITY

In adolescents, substance use disorder frequently goes hand-in-hand with psychiatric disorders, particularly:

- mood and anxiety disorders
- disruptive disorders (attention-deficit/hyperactivity, oppositional defiant, and conduct disorders)¹²
- and posttraumatic stress disorder.¹³

Uncontrolled psychiatric disorders may sabotage substance abuse treatment. Therefore, assess any adolescent presenting with substance use for psychiatric illness.

Did psychiatric symptoms predate or postdate substance use? The answer may suggest self-medication or a substance-induced phenomenon. This assumption does not always apply, however, as many factors affect the relationship between substance use and psychiatric disorders.

Adolescents who meet DSM-IV criteria for conduct disorder—especially those who are highly aggressive—tend to initiate substance use much earlier than adolescents without conduct disorder, and they continue their use longer.

Most adolescents with comorbid psychiatric and substance use disorders develop the psychiatric disorder first. Some report using various substances to medicate their psychiatric symptoms. Early diagnosis and treatment of the psychiatric disorder may prevent or decrease the adolescent’s substance use.

STEPS 3 AND 4: EVALUATING SOCIAL INFLUENCES AND CONSEQUENCES

Social influences that contribute to adolescent alcohol and drug abuse include family dynamics and peer relationships. Consequences include educational and legal problems. We explore these areas with the adolescents and their parents/guardians. In most cases, adolescents are honest when reporting how their alcohol or drug use has affected their lives.

What is his family like? Assess the adolescent’s family, including its structure and history of substance abuse, psychiatric illness, or trauma (Table 3). Adolescents whose parents or siblings use alcohol or drugs are at increased risk for substance use.¹⁴ To what extent this association is genetic, environmental, or both is undetermined,

but the genetic influence increases as adolescents age.¹⁵

Who are her friends? Adolescents who try alcohol or drugs and continue to use them tend to have peers who use these substances.¹⁶ Moreover, the severity of adolescents' substance use is correlated with the number of substance-using peers. To explore peer relationships, ask about:

- peer group composition, including whether peers use alcohol or drugs
- peer interactions, including the adolescent's ability to assert him- or herself in the peer group
- markers for risky sexual behaviors related to substance use, including infection with HIV and other sexually transmitted diseases.

How is she doing in school? Inquire about the teen's academic performance, attendance, disciplinary problems, and motivation. Even a small decline in school performance or an increase in disciplinary problems that result in suspension or expulsion can indicate substance use or other at-risk behaviors.

Poor grades or attendance problems suggest but are not the only clues to substance use. Some adolescents with good school performance engage in substance use and may be impaired in other life domains.

Has he been arrested? Substance-abusing adolescents tend to engage in delinquent behaviors, including shoplifting, vandalism, curfew violations, disorderly conduct, and drunken driving. When assessing for delinquency, ask about behaviors that did or did not result in arrest. The teen who avoided arrest for illegal activities may perceive his/her behaviors as less severe than those involving arrest, and it may help to address this denial in individual or group therapy.

Table 3

Questions to assess family influence on an adolescent's substance use

Family structure

- With whom does the adolescent live?
- How many people live in the home?
- What is the quality of the adolescent's relationship with parents and siblings?

Parenting styles

- Are parents authoritative or permissive?
- What disciplinary methods are used?
- How is conflict managed?

Substance abuse

- Are any family members using alcohol or drugs?
- Is there a family history of substance abuse or dependence?
- What has been the extent of treatment?

Psychiatric disorders

- Do any family members have psychiatric disorders (diagnosed or not)?
- What treatments were given? Outcome?
- What treatment does the family perceive to have been most effective?

Trauma

- Has the adolescent experienced physical or sexual abuse or other trauma?

TREATMENT

We consider any adolescent with dependence symptoms—whether or not the presentation meets full DSM-IV diagnostic criteria—to be a candidate for further assessment and treatment. Early intervention may prevent progression to substance dependence.

Effective treatments:

- are intensive and of sufficient duration to change attitude and behaviors
- are comprehensive and target multiple

continued on page 38



continued from page 35

domains of the adolescent's life

- are sensitive to cultural and socioeconomic realities
- involve the family
- emphasize pro-social recreational activities, such as playing sports, attending movies, camping, having lunch or dinner with peers, etc.

Inpatient or outpatient? Managed care and insurance restrictions limit many patients' eligibility for inpatient or residential treatment, so partial hospitalization and outpatient settings have become

Teens with comorbid conduct disorder were least likely to complete treatment or return for follow-up

standard for substance abuse treatment. Partial hospitalization programs vary but may entail several hours, several days per week. Outpatient treatment may encompass individual, group, and family therapy, including after-school programs.

Inpatient treatment is usually reserved for adolescents:

- who need detoxification
- with comorbid psychiatric disorders
- or who may harm themselves or others.

PSYCHOTHERAPIES

Behavioral therapy, family-based therapy, multi-systemic therapy (MST), and 12-step approaches have shown efficacy in treating adolescents with substance use disorders.

Behavioral therapy. Behavioral therapy is recommended as initial treatment because substance use plays a functional role in the adolescent's life and is learned and reinforced in the adolescent's environment. Homework assignments and role-play are commonly used in therapy.

Three central ingredients are:

- functional analysis (identifying internal and external triggers for starting and continuing substance use)

- skills training (targeting problems identified in the functional analysis)
- and relapse prevention.

Behavioral therapy is more effective than supportive therapy in improving family relationships and school and work attendance and in decreasing substance use, as indicated by fewer positive urine toxicology screens.¹⁷

Cognitive-behavioral therapy (CBT) approaches substance use as a maladaptive response to life problems. Its goal is to teach new skills to help the adolescent recognize and avoid high-risk situations and cope with associated problems and behaviors.

In a recent study, Kaminer et al randomly assigned 82 adolescents with psychiatric and substance use disorders to 8 weeks of CBT or psychoeducational therapy (didactic or videotaped presentations of ways to address problems associated with substance use). Substance use was reduced in both treatment groups, but:

- adolescents receiving CBT had significantly fewer positive urine toxicology tests
- adolescents with comorbid conduct disorder were least likely to complete treatment or return for follow-up
- those with depressive and anxiety disorders were most likely to complete treatment.¹⁸

Family-based therapy. Two detailed reviews^{19,20} demonstrate that the adolescent's family, community, and school relationships affect his or her perceptions and behaviors. Maladaptive relationships in any of these systems may lead to high-risk behaviors. Therefore, family therapy is core to the adolescent's treatment, regardless of what modality is chosen.

Goals of family therapy may be:

- to help the adolescent abstain from substance use
- to engage in pro-social activities

continued on page 40



continued from page 38

- to decrease parental denial of the adolescent's substance use
- to decrease resistance to treatment
- treatment maintenance
- to establish or re-establish structure in the adolescent's environment
- to improve communication in the family.

Multisystemic therapy is comprehensive and involves all systems that relate to the adolescent's substance use, including the family, school, community, and legal system. MST requires special training and intensive supervision, so it is usually reserved for adolescents who have not benefited from other forms of treatment.²¹

12-step approaches. For adolescents, 12-step programs usually augment other treatments and are rarely used alone. Alcoholics Anonymous, Narcotics Anonymous, and other 12-step programs have been studied more extensively in adults than in adolescents.

Adolescents, who often feel invulnerable, may have difficulty accepting the 12-step doctrine of lack of control. A modified 12-step program and workbook for adolescents are available through the American Academy of Child and Adolescent Psychiatry.²²

Referral tips. If possible, refer an adolescent to a 12-step group specifically for adolescents. Teens

who attend adult groups often perceive their substance use as normal, compared with the more severe and chronic patterns of some adults. Most adolescents relate better to peers with similar problems and may benefit from reminders of the negative consequences of substance use and the benefits of abstinence.

DRUG THERAPY

Drug therapy for adolescents with substance use disorders is usually considered in the context of detoxification, treating withdrawal symptoms, and treating comorbid psychiatric disorders. The same detoxification and withdrawal treatment principles used in adults apply to adolescents.

Clinical withdrawal symptoms are less common in adolescents than adults, probably because of adolescents' binge patterns of substance use. Even so, some adolescents do experience withdrawal and may be at risk for complications if improperly treated.

Psychiatric comorbidity. To our knowledge, only two double-blind, placebo-controlled studies of drug therapy in treating adolescent substance use disorders have been published.

Depression. Deas et al²³ randomized 10 adolescents with alcohol use disorders and depression to 12 weeks of group CBT plus sertraline or placebo. Sertraline was started at 25 mg/d and titrated to a maximum of 100 mg/d. Drinks per drinking day, percent of days drinking, and Hamilton Rating Scale for Depression scores declined similarly in both groups.

Drinking decreased significantly from baseline (by an average 4.7 drinks), and adolescents in both groups no longer met DSM-IV criteria for depression at the end of treatment. CBT's effectiveness in treating alcohol use disorders and depression might have concealed any difference in effect between sertraline and placebo.

Bipolar disorder. Geller et al²⁴ randomly assigned 25 adolescents with bipolar disorder and substance dependence to lithium or placebo for 6

To assess adolescent substance use, explore the severity of use, psychiatric comorbidity, social influences, and consequences of behavior. Use appropriate screening instruments to quantify alcohol or drug use, and ask targeted questions when taking the history.

BottomLine

Related resources

- ▶ National Clearinghouse for Alcohol and Drug Information, Substance Abuse and Mental Health Services Administration, U.S. Department of Health and Human Services. www.health.org/govpubs/bkd306/31k.aspx
- ▶ National Institute on Alcohol Abuse and Alcoholism (assessment instruments). www.niaaa.nih.gov/publications/instable.htm
- ▶ Deas D, Thomas SE. An overview of controlled studies of adolescent substance abuse treatment. *Am J Addict* 2001;10:178-89.

DRUG BRAND NAMES

Sertraline • Zoloft

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weeks. Lithium was started as an evening dose of 600 mg and titrated to achieve a lithium blood level of 0.9 to 1.3 mEq/L. Among the 21 adolescents who completed the trial, those receiving lithium had significantly fewer positive urine toxicology screens and higher clinical global assessment of function scores.

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