



Assessment of Substance Use Disorders

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Substance use disorders are complex, chronic, relapsing and remitting diseases resulting in significant morbidity and mortality. The assessment of a possible substance use disorder or disorders is a fluid process that is the continuation of a positive triage screen. The assessment should clarify the diagnosis, type and extent of the disorder and should help determine the appropriate level of care. The assessment should also identify comorbid medical and psychiatric issues and help determine appropriate treatments [1]. Substance use assessment should use multiple avenues to collect the necessary clinical information, including clinical records, self-assessment instruments, structured clinical interviews, and collateral information whenever possible [2, 3].

Gathering the History

Patients should be assessed along three domains: the medical domain, the psychiatric domain, and the substance use domain. Objective assessment includes the initial screening, mental status exam, physical exam, and diagnostic tools including ordering necessary laboratory and imaging studies. The mental status and physical exams can indicate whether the patient is currently intoxicated or in withdrawal. Pertinent positives and negatives differ depending on the substance being used by the patient and are discussed in more detail in later chapters of this book. Similarly, screening and diagnostic scales as well as laboratory and imaging studies can also be tailored to the differential diagnosis.

Assessing a patient along a medical domain is important particularly since a number of medical conditions can mimic various stages of a substance use disorder from intoxication, to withdrawal, to chronic use. For example, essential tremor in a

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social alcohol user can be mistaken for acute alcohol withdrawal, or a gait abnormality attributed to substance abuse and not a neurological issue, if a detailed assessment is not completed. Table 1.1 highlights a selection of medical issues that might present similarly to a substance use disorder; keep in mind that this table is not exhaustive and that contributions from medical and psychiatric issues, as well as substance use, often remain on the differential diagnosis without it being possible to firmly eliminate one. Medical assessment enables one to quantify the comorbid issues that can influence treatment; it also helps to determine the extent of any medical complications as a result of the substance use disorder [4, 5]. The reverse is also true—substance use disorders can also mimic or precipitate common medical conditions. Common examples include nasal ulcers or perforated septum, skin track marks, skin abscesses, alcohol on breath, ascites, enlarged liver, obesity, uncontrolled hypertension, chronic pain, blackouts, accidental overdose, withdrawal symptoms, premature labor, and vague somatic complaints [6].

Assessing along the psychiatric domain is equally important; here again there are psychiatric conditions that can mimic substance use disorders. For example, untreated anxiety might be mistaken for alcohol withdrawal or cocaine intoxication if the patient endorses any recent use of one of these substances, leading to a missed diagnosis of generalized anxiety disorder or panic disorder. As with medical issues, substance use disorders can also mimic common psychiatric conditions. Common symptoms that can be associated with a wide range of substance intoxication and withdrawal syndromes include depression, anxiety, paranoia, hallucinations, irritability, insomnia, flashbacks, suicidal ideations, vagueness, memory and concentration issues, and defensiveness when questioned about substance use. Brain imaging

Table 1.1 Examples of medical “mimics” of substance use disorders and their complications

Head, eyes, ears, nose, and throat (HEENT)	Rhinorrhea seen in patients with upper respiratory infections (similar to that seen in opioid withdrawal)
Cardiovascular	Palpitations seen in patients with atrial fibrillation with rapid ventricular response (similar to that seen with stimulant intoxication or alcohol withdrawal)
Respiratory	Shortness of breath seen in patients with coronavirus disease 2019 (COVID-19) (similar to that seen with chronic cigarette smoking)
Gastrointestinal	Vomiting seen in patients with acute appendicitis (similar to that seen with alcohol intoxication)
Genitourinary	Dysuria seen in patients with acute urinary tract infections (similar to that seen with chronic ketamine use)
Dermatologic	Facial and oral lesions seen in patients with fixed drug eruption (similar to those seen with inhalant abuse)
Neurologic	Gait disturbance and dysarthria seen in patients with posterior circulation stroke (similar to that seen with alcohol intoxication)
Endocrine	Diarrhea seen in patients with hyperthyroidism (similar to that seen in opioid withdrawal)
Hematologic	Paranoia seen in patients with acute intermittent porphyria (similar to that seen with methamphetamine intoxication)
Allergy/immunology	Conjunctival injection from allergic rhinitis (similar to that seen with cannabis use)

of people who have substance use disorders has shown changes in areas responsible for decision-making, learning, memory, judgment, behavioral control, and overall body functioning, any one of which could also be attributed to a primary psychiatric issue in a certain context [7]. Screening for suicidal ideation and depression should be included in all substance-related disorder assessments, e.g., the Columbia Suicide Severity Rating Scale (C-SSRS) and the Patient Health Questionnaire-9 (PHQ-9) [8].

Fully considering medical and psychiatric issues potentially at play can help prevent premature closure and false attribution of symptoms to substance use alone, which can have serious consequences. However, a comprehensive assessment of substance use is always essential along with the other two domains. The substance use history should begin with open-ended questioning (“Have you ever used any substances, regularly or socially, including using prescription drugs that you don’t get from a doctor or use differently or for longer periods than they are prescribed?”) and move toward a systematic approach to specifically address each substance individually. Assessment of the substance use domain should determine all the substances the person uses, the extent or quantity of use for each substance (whether in money spent or other kinds of quantity data such as cigarettes smoked or bags of heroin used), the length of time of use for each substance including the timing of first lifetime use of the substance and last time the substance was used, the pattern of use (daily, bingeing, occasional, social, etc.), and the route of administration: oral, intranasal, smoking, intraocular, or intravenous. These questions and others can be thought of on a spectrum of urgency as illustrated in Table 1.2. Certain questions must be asked immediately to prevent life-threatening consequences, while other questions may be part of a more comprehensive assessment or longer-term treatment and can help assess the patient’s relationship to substances and willingness to change.

It is helpful to discuss the social situations that might have predisposed, precipitated, and perpetuated the patient’s substance use, given the link between psychosocial stressors (divorce, loss of employment, housing instability) and worsening substance abuse [4]. As much as possible, the assessment should also determine the patient’s level of interest in engaging in treatment and any particular barriers (whether practical or psychological) that might interfere. This can include

Table 1.2 Question domains for the substance use history sorted by urgency

Facts needed immediately	Facts to gather during the assessment	Facts and feelings to gather eventually
<ul style="list-style-type: none"> • Substances used • Frequency and amount used most recently • Route of administration • Exact time of last use • Any history of complicated alcohol or benzodiazepine withdrawal 	<ul style="list-style-type: none"> • Age of first use • Changes in pattern of use • Longest period of abstinence • Treatment history • Family history with substances • History of overdoses 	<ul style="list-style-type: none"> • Does patient see substance use as a problem • Likes/dislikes about substance use • Reasons to change • Financial consequences • Triggers for use/relapse and adaptive strategies that have worked in the past

discussion of the longest period of sobriety and interventions that aided in sobriety, as well as the causes of relapse.

If a thorough substance history is obtained, commonly used screening tools such as the CAGE (felt you should **C**ut down on use; people **A**nnoyed you by criticizing your use; felt bad or **G**uilty about use; ever use first thing in the morning to steady nerves or to get rid of any early withdrawal—“**E**ye opener”), or other questionnaires that are directed toward primary care or general psychiatric interviews, will be unnecessary [9].

In most cases, a basic urine drug screen involving qualitative opiate, methadone, cocaine, benzodiazepine, and barbiturates is indicated. If additional substance use is suspected, by the initial assessment, further toxicology diagnostics should be ordered. Routine medical labs including complete blood count, basic metabolic panel, hepatic function panel, hemoglobin A1c, and thyroid-stimulating hormone/free T4 are also indicated and can be tailored to the differential diagnosis. All women of child-bearing age should be given a pregnancy test given the significant risk for complications in pregnant women with comorbid substance use disorders. For patients with higher-risk sexual behaviors, a sexually transmitted infections (STI) panel including human immunodeficiency virus (HIV) testing should be ordered. For patients who use intravenous drugs, HIV, hepatitis B, and hepatitis C serologies should also be obtained. Tuberculosis testing may be indicated if the patient has a history of untreated HIV or is at high risk of it because of social circumstances [10].

Making a Substance Use Disorder Diagnosis

Subsequent to gathering and analyzing the information, a diagnosis must be formulated. Diagnosis of a substance use disorder follows the criteria set forth in the Diagnostic and Statistical Manual 5 (DSM 5), with these general diagnostic criteria applied across the board to each specific substance use disorders (Table 1.3). The diagnosis requires “a problematic pattern of substance use leading to clinically significant impairment or distress as manifested by at least two of the 11 criteria, occurring within a 12 month period” [11]. To clarify the diagnosis, one needs to incorporate questions that address the DSM 5 criteria for substance use disorders (Table 1.3).

Some patients may find reviewing these DSM-5 criteria directly helpful as part of shared decision-making; others may bristle at the clinical language or reject that any of them apply to the patient’s specific situation. As always, clinical judgment of the individual patient is essential.

Discussing Treatment Options

If you have made a determination that the patient is likely to meet criteria for a substance use disorder, it is important at the initial assessment to determine the patient’s readiness to change. The stages of change include pre-contemplation (unaware or unwilling to change; in denial), contemplation (considering change; ambivalent about change), preparation (experimenting with small changes), action (definite action to change), maintenance (maintaining new behavior), and relapse prevention

Table 1.3 DSM-5 criteria for substance use disorder [11]

At least two criteria occurring within a 12-month period	
1	Social and interpersonal problems
2	Craving or strong desire to use
3	Use in physically hazardous situations
4	Failure to fulfill major role obligations
5	Use larger amounts or for longer periods than intended
6	Desire or unsuccessful efforts to cut down
7	Important social, occupational, and recreational activities given up or reduced
8	Greater time spent to obtain, use, and recover
9	Use despite persistent or recurrent physical and psychological problems
10	Tolerance
11	Withdrawal
	Severity modifier: Mild: 2–3 criteria Moderate: 4–5 criteria Severe: 6 or more criteria

[12, 13]. These stages for most are gradual, and it is expected that the patient will make advances and at times regress. One should also determine the positive and negative impact on the patient's quality of life; this includes understanding why using the substance is positively reinforcing for the patient or what benefits it provides [10, 14]. Working to understand the perceived positive aspects of substance use can help reduce feelings of judgment and stigma that the patient may have experienced in previous clinical encounters and may facilitate a fuller discussion of the more negative aspects of the substance use.

Discussion about treatment options must be handled carefully, as it requires the patient to have some understanding and agreement that there is a substance use disorder diagnosis at play. Prematurely discussing future treatment options with patients who do not have insight into having a substance use disorder (e.g., those at the pre-contemplation stage) may cause these patients to become angry and to stop engaging with the assessment.

Common Challenges in the Substance Use Assessment

All substance use assessments should be informed by the possibility that patients may be acutely intoxicated or in withdrawal, influencing their ability or willingness to engage in a discussion. A patient who is intoxicated on phencyclidine (PCP) may be too agitated to participate in any sort of meaningful discussion; a patient who is withdrawing from heroin may become irritated if the conversation lasts too long and veers into less immediately relevant territory.

All conversations with the patient should be direct, empathic, and nonjudgmental in order to present information without alienating the patient who may be ashamed, in denial, ambivalent, or resistant to change. The approach can have a significant impact on whether the patient will leave the assessment in a position to take the next step forward [10].

All aspects of gathering a substance use history must be informed by the fact that patients often are reluctant to reveal substance use issues. There is a fear of negative judgment, being embarrassed by their inability to control their lives, or denial about the extent of the problem. These are the norm, not the exception. Patients avoid disclosing information in a variety of ways both subtle and more overt: minimizing use, minimizing consequences of use, changing topics, seeming not to listen, or discouraging questions with irritation and at times lying. The dropout rate within 30 days of initial assessment across substance use disorders is approximately 50%, with estimates ranging from 26% to 80% [15].

Providers should also be aware of how their own negative views of people who use substances—not always overt but often subtly informed by personal experiences and messages from superiors during medical training—may be affecting the quality of their relationship with the patient in the initial assessment. These biases toward patients with substance use disorders have the potential to negatively affect the likelihood of successful treatment. Physicians have higher rates of stigma toward substance-related disorders as compared to other illness, as well as pessimism about the role of treatment, which leads to decreased empathy toward patients with substance-related disorders [16].

Using multiple substances is common, although the patient may only view one as problematic. A patient who is perfectly content to discuss his significant daily use of intravenous heroin may angrily shut down any discussion of smoking cessation. Bearing in mind that a single patient's readiness to change on two different substances can be drastically different can help avoid an approach that damages the therapeutic alliance.

The involvement of family, friends, and previous providers can be useful in clarifying the patient's history and can be an essential part of a patient making the decision to begin treatment. When gathering collateral information or involving social supports in other ways, it is important to maintain the patient's trust and autonomy by obtaining written consent. You should encourage collateral information sources to share the extent of what they know about the patient's substance use, since patients themselves may be unreliable historians. Bringing support into the assessment whether by phone, video, or in person can be helpful in understanding the full extent of substance use. For example, patients may admit to more problematic aspects of substance use when directly confronted by a family member in ways that a provider cannot do. This can also be an opportunity to assess the family or other social support structures and the ways in which these could be beneficial in planning for next steps in treatment.

Finally, frequent reassessment is critical given the natural course of substance use disorders. The complexity and idiosyncratic features of substance withdrawal, cravings for the substance, and lingering chronic effects of long-time use are among the many factors that can make recovery from substance use so challenging and the presentation so varied at different points even for the same patient. Treatment adjustment is essential as needs of the patient evolve.

Case Study: Patient Lilly

This patient case highlights some of the key considerations for substance use assessment discussed in this chapter.

History of Present Illness (HPI): 42-year-old woman in the emergency department (ED) requesting treatment for anxiety, insomnia, and methadone for withdrawal from heroin use. Patient indicates she “is tired of using and wants to change.”

Medical Domain: Patient reports a diagnosis of hepatitis C for which she is not currently in treatment. She is vague about how she acquired it. She has a history of long-standing hypertension for which she is not in treatment, as well as psoriasis with flare-ups when stressed.

Psychiatric Domain: Patient complains of anxiety which is described as being continuous. She struggles to identify specific domains of anxiety, describing a much more generalized feeling of unease. She also complains of insomnia; she states she only sleeps for a “few hours” a day, and she is continuously tired. She denied any suicidal ideation currently (C-SSRS score is 0), and she denied any history of any suicide attempts. She has not followed up with a mental health professional.

Substance Use Domain: Opioids: heroin, using intravenously, currently using about 15 “bags” per day (equivalent to about 1.5 g per day although the amount of heroin per bag can vary in different communities). First opioid use at the age of 25 years—prescription pills after wisdom tooth removal—transitioned to using heroin at the age of 28. Last use was night prior to ED visit at around 10 pm, used 10 “bags” IV. She reports two prior accidental overdoses both requiring naloxone use and hospital stay. She denies any medical complications including endocarditis; however as noted she reports a history of hepatitis C. She has had multiple attempts at cutting down the use of heroin, by herself and also in treatment programs including two methadone maintenance program admissions. Longest period of sobriety since initial use of opioids was 2.5 years while in the methadone program, ending 1 year ago. Cocaine: ~\$50 per day (~0.5 g), IV-“speedballs” (IV cocaine and heroin together), and first use was at the age of 26 and last use was night prior to ED visit, unknown amount. Tobacco: smokes one pack of cigarettes per day for the last 25 years. Denies use of other substances.

Family History: Patient denies any significant history; however she is vague about this.

Social History: She states she was born and raised in New York City, undomiciled, no contact with parents or siblings who also live in New York City. Not in any relationship. She has some college level education, no vocational training. She works odd jobs at times currently and has a history of sex work. She admits to a pending court case for shoplifting and has spent a total of 4 years in prison. No history of military service.

Objective Diagnostics: Positive urine toxicology for opioids and cocaine; positive serology for hepatitis C. Negative pregnancy test, negative HIV, mild elevation of transaminases.

Physical Exam: Suboptimal hygiene and grooming, cachectic, “track marks” secondary to IV drug use present on both arms and hands, chronic cough, and mildly elevated blood pressure.

Mental Status Exam (MSE): Most notable for superficially cooperative attitude, at times vague thought process, mild subjective anxiety, no hallucinations/delusions, no suicidal ideation currently, partial insight, impaired judgment.

Discussion: Patient Lilly came to the emergency department for anxiety, insomnia, and opioid withdrawal. It quickly becomes clear that she meets DSM-5 criteria for opioid use disorder, severe. She also likely meets criteria for cocaine use disorder, severe (under the category of stimulant use disorders), and tobacco use disorder, severe. The chronic nature of her medical and psychiatric issues raises the possibility of some significant contribution from either or both of these domains to her current presentation. For example, she may have any number of undiagnosed medical conditions exacerbating her insomnia and anxiety, particularly in light of her lack of engagement in medical care. Patients with chronic mental illness often have co-occurring substance use disorders, so while it is difficult to make a conclusive diagnosis of, for example, a generalized anxiety disorder in a patient with such significant substance use, further questioning could help illuminate to what extent anxiety symptoms predated any substance use. All of her medical, psychiatric, and substance use challenges are exacerbated by psychosocial stressors. She is estranged from her family and has no significant community support system. She has legal issues and has apparently struggled to sustain employment. She is undomiciled which is a significant cause of stress and anxiety for those experiencing it and a significant barrier to engagement in any kind of treatment. Due to her substance use pattern and psychosocial stressors, she is at an increased chronic safety risk; however, she is not an acute safety risk as she is not expressing any suicidal ideation nor does she have any known history of suicide attempts. Securing her agreement to contact collateral sources of information (although it appears unlikely from her description of her level of support) could be helpful in verifying the key data informing this assessment. A comprehensive treatment plan for Lilly should address the issues mentioned above in order to provide her with the best possibility for sustained abstinence from substances.

Conclusion

When a patient presents for assessment of a substance-related disorder, it is a critical opportunity to intervene. Ineffective assessments of substance-related disorders frequently stem from too narrow a focus on substance use, neglecting the medical and psychiatric domains and failing to consider how these three areas may interact. Successful assessments of substance use consider these dimensions and incorporate the patient’s readiness to change. Patients must navigate a multitude of barriers to care including psychosocial stressors, complex treatment systems, and fear of being disbelieved or stigmatized while in substance use treatment, all of which can make the substance use assessment particularly challenging. Ultimately, however, a

thorough and compassionate assessment of the medical, psychiatric, and substance use domains could be the catalyst for a patient making the decision to change an unhealthy pattern of substance use [17, 18].

Key Points

- A comprehensive substance use assessment must include attention to the medical and psychiatric domains, either or both of which may be contributing to the current presentation in addition to any substance use.
- Gathering a substance use history must include attention to the basic facts about use—some of which may be urgently needed for lifesaving purposes—as well as the patient’s subjective experience of their use and thoughts about change.
- Patients who use substances may be reluctant to discuss their use in depth, particularly at an initial encounter.

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