Substance use during pregnancy: Screening and prenatal care

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INTRODUCTION

Use and misuse of substances by pregnant individuals is a global problem. Identification of substance use during pregnancy allows for interventions aimed at improving maternal and fetal health, in part by linking to appropriate services and initiating appropriate treatment and medications. Challenges include lack of screening tools with both high sensitivity and specificity that function across cultures and languages, barriers to patient disclosure of substance use, and limited resources for interventions and treatment.

This topic will discuss screening (the use of a verbal or oral questionnaire) for substance use and laboratory testing and will briefly cover the impact of substances on maternal and fetal health. Related topics specific to alcohol and opioid use in pregnancy are presented separately.

- (See "Alcohol intake and pregnancy".)
- (See "Fetal alcohol spectrum disorder: Clinical features and diagnosis".)
- (See "Opioid use disorder: Overview of treatment during pregnancy".)

- (See "Prenatal substance exposure and neonatal abstinence syndrome (NAS): Management and outcomes".)
- (See "Testing for drugs of abuse (DOAs)".)

In this topic, when discussing study results, we will use the terms "woman/en" or "patient(s)" as they are used in the studies presented. However, we encourage the reader to consider the specific counseling and treatment needs of transgender and gender-expansive individuals.

DIAGNOSTIC CRITERIA

Substance use disorders are defined by cognitive, behavioral, and physiological symptoms suggesting continued substance use despite significant substance-related problems. Two systems of criteria for diagnosis and assessment of severity are outlined by the International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) and the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) (table 1) [1].

Briefly, in the DSM-5, substance use and dependence are combined into substance use disorder [1]. Eleven diagnostic criteria are used to assess the amount consumed, cravings, tolerance, withdrawal, and behavioral changes to obtain or use the substance. The final diagnosis describes the substance (ie, alcohol use disorder) and severity (mild, moderate, or severe). DSM-5 diagnostic criteria are reviewed in detail elsewhere. (See "Substance use disorders: Clinical assessment", section on 'Assessment/Diagnosis'.)

The purpose of screening for substance use is to identify patients who may meet the diagnosis for substance use disorder and to recognize patients at risk for developing substance use disorder. Some screens are also meant to detect other social risks, including violence. (See "Intimate partner violence: Diagnosis and screening".)

BACKGROUND

Risk factors for substance use — Universal screening for substance use disorders with an appropriate tool is advised for all pregnant patients [2]. The following risk factors have also been associated with substance use disorder [3-10]:

- Late initiation of prenatal care or multiple missed prenatal visits.
- Diagnosis of a mental health disorder or family history of substance use disorders.
- A sudden change in behavior, such as somnolence, intoxication, agitation, aggression, disoriented or erratic behavior. Patients using substances may also exhibit symptoms of depression, including sleep disturbance, weight loss, and loss of interest in eating.
- High-risk sexual behavior or history of sexually transmitted infections. Individuals who are trading sex for drugs are at risk for these infections.
- Unstable home environment or relationship problems, including history of adverse childhood events, exposure to multiple stressful life events, and having a partner who has a substance use disorder.
- Past obstetric history of unexplained adverse events, such as abruptio placentae.
- Children not living with the mother or involved with child protection agencies.
- History of medical problems frequently associated with drug use disorders (eg, cellulitis, skin abscess, endocarditis, osteomyelitis, suspicious trauma, hepatitis, phlebitis, tuberculosis), physical signs of drug use (eg, conjunctival injection, track marks, atrophy of the nasal mucosa, erosion or perforation of the nasal septum), or physical signs of withdrawal (eg, dilation or constriction of pupils, tachycardia, sweating, watery eyes, runny nose, slurred speech, yawning, unsteady gait).
- Poor dentition.
- Encounters with law enforcement agencies because of violence or trauma, theft, or other issues (eg, exchanging sexual acts for drugs).

Role of obstetric provider — The obstetric provider is in a key position for screening, early diagnosis, counseling, and initiating treatment of pregnant individuals with substance use disorders [11]. Treatment can be within the provider's practice or at another site. This model is called Screening, Brief Intervention, and Referral to Treatment (SBIRT) [12]. SBIRT is not only a

screening tool but is also a process for helping the patient decide what to do next and to help the patient initiate treatment, if indicated and desired.

> However, many obstetric providers do not screen for substance use and thus miss opportunities for patient education and referral to treatment. In a survey of over 10,000 pregnant persons from eight US states, 37 percent said they were not asked about cannabis use and 63 percent noted they were not advised against its use during pregnancy or lactation [13]. Pregnant persons living in states with legalized cannabis policies were more likely to be asked about and advised against cannabis use.

Barriers to disclosure — There are many reasons why patients may not disclose substance use.

- **Legal concerns** – Fear of legal consequences, including involvement of child protection agencies and loss of custody of children, is one reason pregnant individuals may not disclose substance use [14-16].
  - **Policy examples** – Examples of common US approaches include those that consider substance use during pregnancy to be child abuse, require reporting of suspected or confirmed substance use in pregnancy, and consider prenatal substance use as grounds for involuntary commitment to a treatment facility [17,18]. A state can have one, some, or all policy types. Per the US Child Abuse Prevention and Treatment Act, all states are required to have policies to notify child protective services of a positive newborn toxicology screen [19]. Providers should be aware of local laws and reporting requirements, which vary widely.
  - **Impact on care utilization** – In a study of data from the 2016 to 2019 US Pregnancy Risk Assessment Monitoring System (PRAMS) survey including 4155 pregnant patients who reported substance use, patients in states with child abuse and/or mandated reporting policies were more likely to start prenatal care at a later gestation and were less likely to receive adequate prenatal care or have a postpartum visit [15]. Rather than improving care access, these policies were associated with delayed initiation of care and reduced care utilization that may, in turn, have limited access to timely substance use treatment and its resultant benefits to the patient and children.
- **Denial** – Denial by patients that they are inappropriately using substances and the consequences of this use is a significant barrier to identifying substance use disorder.

- **Other** – Additional reasons for not disclosing substance use include lack of understanding of treatment options, lack of hope for adequate disease management, and stigma both from the community and from health care providers [20].

Concerns for bias — Routine screening for substance use disorders should be applied equally to all people, "regardless of age, sex, race, ethnicity, or socioeconomic status [21]" to reduce the risk of inequitable application of urine toxicology tests (UTTs). Despite advocacy for universal screening, race-based screening persists.

In an observational study of over 37,000 patients with a live birth or stillbirth in a Pennsylvania hospital system that applied staff-administered universal screening, the mean predicted probability of having a UTT was higher for Black patients compared with White and other racial groups, regardless of history of substance use [22]. The mean predicted probability was derived from a logistic regression model that controlled for patient age, ethnicity, marital status, parity, tobacco use, prenatal visit utilization, stillbirth, and placental abruption.

- **Without substance use history** – The probability of receiving a UTT for Black patients: 6.9 percent (95% CI 6.4-7.4) versus White patients: 4.7 percent (95% CI 4.4-4.9) [22]

- **With substance use history** – While Black patients with a substance use history were more likely to undergo testing, White patients were more likely to have a positive test result [22].

  - **Probability of receiving a UTT** – Black patients: 76.4 percent (95% CI 74.8-78.0) versus White patients: 68.7 (95% CI 67.3-70.1)

  - **Probability of positive UTT** – Black patients: 58.3 percent (95% CI 55.5-61.1) versus White patients 66.7 (95% CI 64.8-68.7)

SCREENING FOR SUBSTANCE USE

General approach — The optimal screening tool for use in the pregnant population is not clear, in part because of the limited number of comparative studies, use of multiple screening tests among studies, range of substances evaluated, potential impact of patient age and race, and varied community prevalence of substance use and substance use disorders [23-25]. Universal

screening is best accomplished by use of a validated questionnaire [2,21]. The tool to be used should be determined by cost, availability, and ease of use, among other variables. Data indicating superiority of one screening instrument over another for pregnant individuals are lacking.

Substance use during pregnancy occurs in every community and appears to be rising in the United States as documented by diagnoses at the time of delivery hospitalization [26]. Clinicians should be familiar with patterns of substance use common in their regions. Multiple societies and agencies consider screening for substance use and substance use disorders with a validated questionnaire a part of complete obstetric care and recommend asking all pregnant individuals about their use of alcohol and prescription and other substances (table 2) [2,27-33]. This recommendation is based on the prevalence of substance use disorders in the population, its adverse effects, and data from mostly nonrandomized studies demonstrating that intervention (education, prenatal care, treatment of substance use disorders) can improve maternal and neonatal outcomes [34-40]. Screening followed by intervention can be cost-effective [41]. The risks of screening are felt to be low, but consideration of the patient perspective in this regard is warranted.

Ideally, screening is performed at the initial prenatal visit, and repeat screening is performed periodically during pregnancy (eg, each trimester and postpartum) [2]. Since those who use substances come from all socioeconomic strata, ages, and races, consistent and repeated screening is advised [42,43]. Drug screening based only on patient self-report has the potential to increase harm in an inequitable manner [44]. In one report, a prenatal care system that did not routinely screen for substance use disorders identified less than one-third of individuals who subsequently had a child removed from the home because of parental substance use disorders [45]. Objective testing for substances (eg, urine drug testing) may address some underreporting but is more costly and has other limitations. (See 'Laboratory testing' below.)

Screening tools — Whereas screening instruments for prenatal alcohol use have been well-studied, tools for screening for other substances are less well-developed. The World Health Organization (WHO) guidelines for the identification and management of substance use and substance use disorder during pregnancy list several potential screening measures for pregnant persons, even though not all have been evaluated among that population [46]. The measures listed by WHO include the Substance Use Risk Profile-Pregnancy Scale (SURP-P), the proprietary 4P's Plus, the National Institute on Drug Abuse (NIDA) Quick Screen, and the Modified Alcohol, Smoking and Substance Involved Screening Test (ASSIST). The American College of Obstetricians and Gynecologists advises universal screening for all pregnant individuals, including the 4P's, NIDA Quick Screen,

or the CRAFFT. In addition, there are other screening tools, each with their own advantages and limitations (table 2) [2]. Regardless of which screening instrument is used, an affirmative response should be followed by further assessment. (See 'Evaluative conversation' below.)

Descriptions, advantages, and limitations of selected screening tests, presented in alphabetical order, include

- **ASSIST** – The ASSIST tool was developed for WHO for use in primary and general medical care settings. Advantages include that it is available in multiple languages and was developed for international use. This screening tool is not specific to pregnancy. The questionnaire and information on its development and validation are available for free through the WHO website on management of substance abuse.

- **CRAFFT** – The CRAFFT Substance Abuse Screen for Adolescents and Young Adults (ages 12 to 21 years) is available for use without restriction. Preliminary testing was among pregnant young adults and was found to be better than the medical record and the T-ACE alcohol screen for identification of prenatal substance use [47]. Two or more positive responses to the following questions indicate the need for further assessment:

  - **C** – Have you ever ridden in a **CAR** driven by someone (including yourself) who was high or had been using alcohol or drugs?
  - **R** – Do you ever use alcohol or drugs to **RELAX**, feel better about yourself, or fit in?
  - **A** – Do you ever use alcohol or drugs while you are by yourself or **ALONE**?
  - **F** – Do you ever **FORGET** things you did while using alcohol or drugs?
  - **F** – Do your **FAMILY** or **FRIENDS** ever tell you that you should cut down on your drinking or drug use?
  - **T** – Have you ever gotten in **TROUBLE** while you were using alcohol or drugs?

- **4P's** – The 4P's screen for substance use in pregnancy and consists of questions about substance use by the Patient (past or current), Partner, Peers, or Parent(s). One limitation is that this is a copyrighted screening instrument that must be purchased for use. The nonproprietary 5P's test has been evaluated in pregnant individuals, but one study raised concerns for its lack of specificity [24].

- **NIDA Quick Screen** – The NIDA Quick Screen questions have been shown to be very specific and sensitive (table 3). While the screen was validated in the primary care population and not in pregnant persons, benefits include that it quantifies substance use and includes both illicit and prescription drugs. A prospective cross-sectional study that compared screening tests in pregnant persons reported the NIDA Quick Screen had a sensitivity and specificity of 80 and 82 percent, respectively, with a test-retest reliability of 0.77 [23].

- **SURP-P** – The SURP-P assesses the amount of alcohol consumed in the month prior to pregnancy and if the individual has ever felt the need to reduce alcohol or drug use [48]. Advantages include simplicity, ease of use, and high sensitivity in cross-sectional studies [23,24]. Disadvantages include low specificity and limited assessment of substance use other than alcohol. In one cross-sectional study, test performance varied with race, site of test, and economic status [24].

- **WIDUS** – The Wayne Indirect Drug Use Screener (WIDUS) focuses on correlates of substance use by asking six true/false questions [49,50]. In one cross-sectional screening accuracy study, the area under the curve for the WIDUS screen correlated well for illicit drugs and opioids (0.70 and 0.69) but less so for alcohol use [24]. Similar to the SURP-P, test performance varied with race, site of test, and economic status.

Use of screening tools combined with clinical context is discussed in separately. (See "Substance use disorders: Clinical assessment".)

Evaluative conversation — If a patient screens positive for substance use, a brief intervention is indicated. This is the same as the "brief intervention" component of the Screening, Brief Intervention, and Referral to Treatment (SBIRT) model discussed above. (See 'Role of obstetric provider' above.)

A practical, effective approach for interviewing individuals about substance use includes respectful and sensitive use of neutrally worded questions. It is preferable to begin with questions about lawful and more socially acceptable substances (such as tobacco, alcohol, or cannabis use), followed by questions about nonmedical use of over-the-counter drugs (such as pseudoephedrine products and dextromethorphan products), use of prescription drugs (opioid analgesics, sedatives, stimulants, tranquilizers), and, finally, illegal substances (methamphetamine, cocaine, heroin, fentanyl, hallucinogens, and inhalants). In the SBIRT model, patients who screen positive are provided with nonjudgmental information about risks of

continued use for both mother and fetus and then referred for appropriate treatment [2]. Having a document or plan for referral is key so that the referral process can be carried out in a timely and controlled manner for the patient.

Additional discussion points that can be helpful to determine degree of use and guide treatment selection include (see "Substance use disorders: Clinical assessment", section on 'Type, frequency, and amount'):

- **Pattern of use** – Ask about the frequency of drug use, length of the most recent pattern of use, and time of last use. It may be helpful to ask about where, when, and with whom drugs are most often used.
- **Route of administration** – Oral, intranasal, subcutaneous injection ("skin popping"), or intravenous. If the patient has ever used a needle to inject drugs, ask about shared needles.
- **Quantity used** – For each substance, ask about the quantity used (ie, quantity of powder, unit of sale from a supplier). Terms used for drug units vary regionally, and it is helpful to be familiar with local drug terminology and to ask for explanations of unfamiliar terms. The amount of money spent on a daily, weekly, or monthly basis for drugs may also be used to quantify drug use. However, information about the quantity of drug use is not helpful in determining if an individual has a substance use disorder and may not be accurately reported.
- **Additional symptoms** – Ask about the presence of tolerance and withdrawal symptoms specific to each substance used.
- **Prior substance use treatment** – Ask about participation in self-help programs such as Narcotics Anonymous (NA), prior detoxification or addiction treatment, and abstinence periods. What has been helpful in the past and what has been tried? What was the longest period of abstinence or maintenance treatment without using illicit drugs?

LABORATORY TESTING

Universal laboratory testing for evidence of drug use is not recommended because of the potential limitations of these tests [27]. The use and limitations of drug tests are described in detail separately. (See "Substance use disorders: Clinical assessment", section on 'Laboratory tests'.)

There is no consensus among research groups regarding when drug tests should be used in pregnant persons or the best method for analyzing biological samples (urine, blood, hair, saliva) [51]. Urine testing is most common. In the past, some practices have utilized urine drug testing in such clinical scenarios as preterm complications, placental abruption, hypertension, and other fetal or maternal complications. However, a subsequent study including 551 pregnant persons who underwent toxicology testing found the only condition associated with a positive test was reported current or past substance use. This study also presented evidence that racial bias impacted decision to test as Black and Hispanic patients were more likely than White patients to undergo toxicology testing for an indication other than reported substance use [52]. (See 'Concerns for bias' above.)

Positive tests for illicit drugs can have legal and economic implications. As such, individuals should be informed of the potential ramifications of a positive test result and should give informed consent prior to testing; random testing could be unethical [2,17,21]. However, medically indicated drug testing without written consent may be acceptable in individuals who are unconscious or show obvious signs of intoxication and need to be tested in order to provide the appropriate medical interventions. Clinicians should be aware of their state's requirements for testing and reporting drug test results and understand their laboratory's false-positive rates for many substances. A positive initial test should be followed by a confirmatory test to exclude false-positive results.

PRENATAL CARE OF INDIVIDUALS WITH SUBSTANCE USE DISORDER

General principles — Obstetric providers should adhere to safe prescribing practices of prescription drugs, particularly opioids, and encourage healthy behaviors [2]. They should educate patients about maternal/fetal/neonatal morbidity associated with substance use, identify patients who are using substances, and be aware of local resources for consultation and patient referral [17]. Beyond interventions by individual clinicians, a study of 12 states in the United States reported that the most common systems-level strategies were to focus on (1) increasing access and coordination of quality services and (2) increasing clinician awareness and training [53].

Substance use assessment, counseling, and support by a nonjudgmental clinician may motivate some individuals who use substances other than opioids to abstain. Most others and all individuals with opioid use disorder will require referral for in-

depth assessment followed by counseling and treatment. In the case of pregnant individuals with opioid use disorder, initiating medication for opioid use disorder (MOUD) is recommended. (See "Opioid use disorder: Overview of treatment during pregnancy".)

Our approach — Few randomized trials have evaluated the optimal approach to management of pregnant individuals with substance use disorders [54-59]. Observational studies suggest that combining treatment of substance use disorders with comprehensive prenatal care can reduce the frequency of some maternal and neonatal complications of maternal substance use [34-40]. Components of this care should be individualized, based on patient-specific factors, and may include the following [2,3,27,28]:

- **Counseling** – Counsel about the risks associated with each drug the mother is using. Both maternal and short- and long-term effects on offspring should be discussed.
  - (See "Substance use during pregnancy: Overview of selected drugs".)
  - (See "Cocaine use disorder: Epidemiology, clinical features, and diagnosis".)
  - (See "Opioid use disorder: Epidemiology, clinical features, health consequences, screening, and assessment".)
  - (See "Cannabis use disorder: Clinical features, screening, diagnosis, and treatment".)
  - (See "Methamphetamine use disorder: Epidemiology, clinical features, and diagnosis".)
  - (See "Prescription drug misuse: Epidemiology, prevention, identification, and management".)
  - (See "Benzodiazepine use disorder".)
  - (See "Prenatal substance exposure and neonatal abstinence syndrome (NAS): Clinical features and diagnosis".)
- **Reduce or discontinue use, and start appropriate treatment** – Encourage the patient to reduce and, ideally, discontinue use of the substance(s); however, this depends on the specific drug and pattern of use.
  - For pregnant individuals with opioid use disorder:

    - Offer medication for opioid use disorder (MOUD), most typically either methadone (which must be dispensed through a federally licensed opioid treatment program) or buprenorphine [60]. (See "Opioid use disorder: Overview of treatment during pregnancy".)

    - Provide naloxone and harm-reduction counseling, including information about local needle exchanges or safe injection sites, if available in the community.

  - Pregnant individuals on high doses of benzodiazepines may benefit from medical detoxification to minimize or prevent withdrawal symptoms. (See "Benzodiazepine poisoning and withdrawal", section on 'Benzodiazepine Withdrawal'.)

  - If available, a program for management of discontinuation of cocaine, stimulants, or cannabis may be useful. (See "Cannabis use disorder: Clinical features, screening, diagnosis, and treatment" and "Stimulant use disorder: Psychosocial management", section on 'Interventions'.)

  - (See "Prescription drug misuse: Epidemiology, prevention, identification, and management".)

- **Identify coexisting psychosocial conditions and trauma** – Conditions such as psychiatric disorders and physical/sexual/emotional abuse occur frequently in individuals with substance use disorders. The interrelationships between these issues and substance use need to be addressed in caring for these patients.

  - For patients experiencing violence:

    - (See "Intimate partner violence: Diagnosis and screening".)

    - (See "Intimate partner violence: Intervention and patient management".)

  - For patients with psychiatric illness:

    - (See "Unipolar major depression during pregnancy: Epidemiology, clinical features, assessment, and diagnosis".)

    - (See "Bipolar disorder in women: Preconception and prenatal maintenance pharmacotherapy".)

- (See "Bipolar disorder in pregnant women: Screening, diagnosis, and choosing treatment for mania and hypomania".)
- (See "Bipolar disorder in pregnant women: Treatment of major depression".)
- (See "Obsessive-compulsive disorder in pregnant and postpartum patients".)

- **Use a multidisciplinary approach** – Assemble a multidisciplinary team for comprehensive assessment and to participate in the care of these patients and their children. The team may include obstetric, medical, pediatric, psychiatric, addiction medicine, and social service providers. Social workers and child life specialists may assist in preparing the patient for parenting, as well as for postpartum involvement of child protective services.

- **Address other social determinants of health** – Poorly nourished, homeless, and/or incarcerated pregnant individuals with substance use disorders can require additional interventions to address the other challenges in their lives. In addition to education about nutrition and weight gain, some of these individuals may need referral to food assistance programs and shelters and provision of transportation vouchers and prenatal multivitamins. Additionally, individuals with substance use disorders may have experienced or witnessed significant trauma and benefit from trauma-informed care, which is discussed separately. (See "Human trafficking: Identification and evaluation in the health care setting", section on 'Trauma-informed care'.)
  - (See "Prenatal care for people experiencing homelessness".)
  - (See "Prenatal care: Incarcerated females".)
  - (See "Gestational weight gain" and "Nutrition in pregnancy: Dietary requirements and supplements".)

- **Adjust routine prenatal care to the patient's additional needs** – In addition to routine components of prenatal care, the following can be helpful in caring for patients with substance use disorders [2]:
  - Test for sexually transmitted infections (eg, syphilis, gonorrhea, chlamydia, hepatitis B and C, HIV) and tuberculosis, which may be transmitted to the fetus or neonate. These tests should be repeated in the third trimester in patients

who remain at increased risk. In one study of data from two US states, patients with a pregnancy impacted by congenital syphilis had nearly double the rates of substance use compared with pregnant persons with syphilis but without that outcome (48.1 versus 24.6 percent, respectively) [61].

- (See "Prenatal care: Initial assessment" and "Prenatal care: Second and third trimesters", section on 'Screen for sexually transmitted infections'.)
- (See "Syphilis in pregnancy".)
- (See "Prenatal evaluation of women with HIV in resource-rich settings".)
- (See "Vertical transmission of hepatitis C virus".)
- (See "Epidemiology, transmission, and prevention of hepatitis B virus infection", section on 'Mother-to-child transmission'.)
- (See "Tuberculosis disease (active tuberculosis) in pregnancy".)

- During prenatal visits, provide education and support, monitor maternal and fetal status, and assess for complications of pregnancy or health problems related to addiction.
- Obtain an early ultrasound examination to provide the most accurate determination of gestational age, which is important for later evaluation of fetal growth and accurate diagnosis of preterm versus term or postterm gestation. (See "Prenatal assessment of gestational age, date of delivery, and fetal weight".)
- Assess for fetal growth restriction in the second half of pregnancy. (See "Fetal growth restriction: Pregnancy management and outcome", section on 'Prenatal care'.)
- Perform antepartum fetal surveillance for standard obstetric indications (eg, growth restriction, antepartum bleeding, preeclampsia) or maternal withdrawal. Substance use alone is not an indication for fetal monitoring with nonstress tests or the biophysical profile. (See "Overview of antepartum fetal assessment".)

- Consult the anesthesia service prior to delivery to develop a pain management plan [62,63]. Women with substance use disorders, especially those involving opioids, may be more sensitive to pain, may not obtain adequate pain relief with usual doses of pain relievers, and may have difficult venous access [64,65].

- Prepare the patient for the postpartum period:

  - Provide individuals on MOUD with anticipatory guidance about neonatal abstinence syndrome, which may include an antenatal pediatrics or neonatology consultation.

  - Inform the pediatric service of the possibility of neonatal withdrawal. (See "Prenatal substance exposure and neonatal abstinence syndrome (NAS): Management and outcomes".)

  - Discuss the risks and benefits of breastfeeding. Individuals who use substances while pregnant should understand that these substances can be detected in breast milk and can affect the neonate. (See "Prenatal substance exposure and neonatal abstinence syndrome (NAS): Clinical features and diagnosis" and "Prenatal substance exposure and neonatal abstinence syndrome (NAS): Management and outcomes".)

  Individuals on methadone or buprenorphine may be encouraged to breastfeed [66-68]. Breastfeeding has been shown to reduce neonatal abstinence syndrome severity, need for treatment, and neonatal length of stay. (See "Opioid use disorder: Pharmacotherapy with methadone and buprenorphine during pregnancy", section on 'Breastfeeding'.)

  - Pregnant individuals with substance use disorder should receive antenatal education about contraception. A systematic review found that women with substance use disorder were less likely to use contraception than those without [69]. Education may help reduce this disparity.

  - A confirmed transfer, ideally with direct communication, to a primary care provider in the postpartum period is essential to ensure ongoing medical support for the patient.

RESOURCES

- The World Health Organization (WHO) provides information on the management of substance use, including the Alcohol, Smoking and Substance Involvement Screening Test (ASSIST)
- American Society of Addiction Medicine (ASAM)
- Substance Abuse and Mental Health Services Administration (SAMHSA)
- American College of Obstetricians and Gynecologists (ACOG)
- Perinatal Provider Toolkit by the Mid-America Addiction Technology Transfer Center (ATTC) Network, funded by SAMHSA

SOCIETY GUIDELINE LINKS

Links to society and government-sponsored guidelines from selected countries and regions around the world are provided separately. (See "Society guideline links: Substance misuse in pregnancy" and "Society guideline links: Opioid use disorder and withdrawal" and "Society guideline links: Cannabis use disorder and withdrawal" and "Society guideline links: Cocaine use and cocaine use disorder".)

INFORMATION FOR PATIENTS

UpToDate offers two types of patient education materials, "The Basics" and "Beyond the Basics." The Basics patient education pieces are written in plain language, at the 5th to 6th grade reading level, and they answer the four or five key questions a patient might have about a given condition. These articles are best for patients who want a general overview and who prefer short, easy-to-read materials. Beyond the Basics patient education pieces are longer, more sophisticated, and more detailed. These articles are written at the 10th to 12th grade reading level and are best for patients who want in-depth information and are comfortable with some medical jargon.

Here are the patient education articles that are relevant to this topic. We encourage you to print or e-mail these topics to your patients. (You can also locate patient education articles on a variety of subjects by searching on "patient info" and the

keyword(s) of interest.)

- Basics topics (see "Patient education: Alcohol and drug use in pregnancy (The Basics)")

SUMMARY AND RECOMMENDATIONS

- **Purpose of screening** – Universal screening for substance use disorders with an appropriate tool is advised for all pregnant patients. Identification and treatment of pregnant persons who misuse prescription medications and other substances can decrease maternal substance use during pregnancy. Barriers to disclosure of substance use include legal concerns, patient denial, and social stigma, among others. (See 'Background' above.)

- **Our approach** – Given the potential adverse fetal and maternal effects of substance use, we ask all pregnant individuals about substance use with either a validated questionnaire or an evaluative conversation. Data supporting benefit of substance use intervention on maternal and fetal outcomes are mainly from nonrandomized studies. (See 'General approach' above.)

  - **Validated questionnaire** – While several are available for use in pregnancy, none is clearly superior to another. Selection is determined by cost, availability, ease of use, and language, among other variables. Regardless of which screening instrument is used, an affirmative response should trigger further assessment. (See 'Screening tools' above.)

  - **Evaluative conversation** – An evaluative conversation is an alternative to validated questionnaires. Care should be taken to remain respectful and use neutrally worded questions about substance types, patterns and quantities of use, and any prior substance treatment. (See 'Evaluative conversation' above.)

- **Laboratory testing** – Universal laboratory testing for evidence of substance use is not recommended because of the limitations of these tests as well as ethical considerations. Possible clinical indications for laboratory testing after informed consent in selected pregnant persons include previous positive drug test or monitoring compliance with methadone or buprenorphine use. Clinicians should be aware of their state's requirements for testing and reporting drug test results. Clinicians should also be aware of the inaccuracies of substance testing and availability of confirmatory tests, as well as institutional protocols for obtaining them. (See 'Laboratory testing' above.)

- **Prenatal care for individuals with substance use disorders** – Few randomized trials have evaluated the optimal approach to management of pregnant persons with substance use disorders. Observational studies suggest that combining treatment of substance use disorders with comprehensive prenatal care can reduce the frequency of maternal and neonatal complications of maternal substance use. Components of this care should be individualized based on patient-specific factors. (See 'Prenatal care of individuals with substance use disorder' above.)

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Topic 4799 Version 82.0

GRAPHICS

DSM-5 diagnostic criteria for other (or unknown) substance use disorder

A problematic pattern of use of an intoxicating substance not able to be classified within the alcohol; caffeine; cannabis; hallucinogen (phencyclidine and others); inhalant; opioid; sedative, hypnotic, or anxiolytic; stimulant; or tobacco categories and leading to clinically significant impairment or distress, as manifested by at least two of the following, occurring within a 12-month period:

1. The substance is often taken in larger amounts or over a longer period than was intended.
2. There is a persistent desire or unsuccessful efforts to cut down or control use of the substance.
3. A great deal of time is spent in activities necessary to obtain the substance, use the substance, or recover from its effects.
4. Craving, or a strong desire or urge to use the substance.
5. Recurrent use of the substance resulting in a failure to fulfill major role obligations at work, school, or home.
6. Continued use of the substance despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of its use.
7. Important social, occupational, or recreational activities are given up or reduced because of use of the substance.
8. Recurrent use of the substance in situations in which it is physically hazardous.
9. Use of the substance is continued despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by the substance.
10. Tolerance, as defined by either of the following:
    a. A need for markedly increased amounts of the substance to achieve intoxication or desired effect.
    b. A markedly diminished effect with continued use of the same amount of the substance.
11. Withdrawal, as manifested by either of the following:
    a. The characteristic withdrawal syndrome for other (or unknown) substance (refer to Criteria A and B of the criteria sets for other [or unknown] substance withdrawal, p. 583).
    b. The substance (or a closely related substance) is taken to relieve or avoid withdrawal symptoms.

Specify if:

In early remission: After full criteria for other (or unknown) substance use disorder were previously met, none of the criteria for other (or unknown) substance use disorder have been met for at least 3 months but for less than 12 months (with the exception that Criterion A4, "Craving, or a strong desire or urge to use the substance," may be met).

In sustained remission: After full criteria for other (or unknown) substance use disorder were previously met, none of the criteria for other (or unknown) substance use disorder have been met at any time during a period of 12 months or longer (with the exception that Criterion A4, "Craving, or a strong desire or urge to use the substance," may be met).
Specify if:
In a controlled environment: This additional specifier is used if the individual is in an environment where access to the substance is restricted.
Coding based on current severity: Note for ICD-1-CM codes: If an other (or unknown) substance intoxication, other (or unknown) substance withdrawal, or another other (or unknown) substance-induced mental disorder is present, do not use the codes below for other (or unknown) substance use disorder. Instead, the comorbid other (or unknown) substance use disorder is indicated in the 4th character of the other (or unknown) substance-induced disorder code (see the coding note for other (or unknown) substance intoxications, other (or unknown) substance withdrawal, or specific other (or unknown) substance-induced mental disorder). For example, if there is comorbid other (or unknown) substance-induced depressive disorder and other (or unknown) substance use disorder, only the other (or unknown) substance-induced depressive disorder code is given, with the 4th character indicating whether the comorbid other (or unknown) substance use disorder is mild, moderate, or severe: F19.14 for other (or unknown) substance use disorder with the other (or unknown) substance-induced depressive disorder or F19.24 for a moderate or severe other (or unknown) substance use disorder with other (or unknown) substance-induced depressive disorder.
Specify current severity:
305.9 (F19.1) Mild: Presence of 2–3 symptoms.
304.9 (F19.2) Moderate: Presence of 4–5 symptoms.
304.9 (F19.2) Severe: Presence of 6 or more symptoms.

Graphic 50295 Version 10.0

Clinical screening tools for substance use disorders during pregnancy

4 Ps[1]
Parents: Did any of your parents have a problem with alcohol or other drug use?
Partner: Does your partner have a problem with alcohol or drug use?
Past: In the past, have you had difficulties in your life because of alcohol or other drugs, including prescription medications?
Present: In the past month, have you drunk any alcohol or used other drugs?
Scoring: Any "yes" should trigger further questions.
NIDA Quick Screen[2]
Screen your patients
Step 1. Ask patient about past year drug use – the **NIDA Quick Screen**
Step 2. Begin the **NIDA-Modified ASSIST**
Step 3. Determine risk level
Conduct a brief intervention
Step 4. **A**dvise, **A**ssess, **A**ssist, and **A**rrange
CRAFFT – Substance Abuse Screen for Adolescents and Young Adults[3]
C Have you ever ridden in a **CAR** driven by someone (including yourself) who was high or had been using alcohol or drugs?
R Do you ever use alcohol or drugs to **RELAX**, feel better about yourself, or fit in?
A Do you ever use alcohol or drugs while you are by yourself or **ALONE**?
F Do you ever **FORGET** things you did while using alcohol or drugs?
F Do your **FAMILY** or friends ever tell you that you should cut down on your drinking or drug use?
T Have you ever gotten in **TROUBLE** while you were using alcohol or drugs?
Scoring: Two or more positive items indicate the need for further assessment.

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1. *Ewing H. A practical guide to intervention in health and social services with pregnant and postpartum addicts and alcoholics: theoretical framework, brief screening tool, key interview questions, and strategies for referral to recovery resources. Martinez (CA): The Born Free Project, Contra Costa County Department of Health Services; 1990.*
2. *National Institute on Drug Abuse. Screening for Drug Use in General Medical Settings: Resource Guide. Available at: https://nida.nih.gov/sites/default/files/resource_guide.pdf (Accessed on July 1, 2022).*
3. *Center for Adolescent Behavioral Health Research, Children's Hospital Boston. The CRAFFT screening interview. Boston (MA): CABHRe; 2009. © John R. Knight, MD, Boston Children's Hospital, 2018. All rights reserved. Reproduced with permission. For more information, contact crafft@childrens.harvard.edu.*

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National Institute on Drug Abuse quick screen

In the past year*, how often have you used the following:	Never	Once or twice	Monthly	Weekly	Daily or almost daily
1. Alcohol, four or more drinks per day					
2. Tobacco products					
3. Prescription drugs for nonmedical reasons					
4. Illegal drugs					

* For pregnant women, ask about substance use since the woman became pregnant.

Modified from: National Institute on Drug Abuse (NIDA). The NIDA Quick Screen. Available at: https://www.drugabuse.gov/sites/default/files/pdf/nmassist.pdf (Accessed on September 21, 2016).

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