

PROTOCOL 3

Opioid Use, Misuse, and Addiction in Pregnancy and Postpartum

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Overview

Opioids have been part of human culture and healing for millennia. Initially cultivated and distributed throughout the ancient world, opioids are described in Sumerian, Egyptian, Greek, Islamic, and Chinese medical treatises. Whereas opioid use is ancient, problematic use and, specifically, addiction are more modern phenomena. The first opioid crisis, which dates to the latter half of the 18th century, was iatrogenic in origin. This was an epidemic overwhelmingly of women, who had initially been exposed to opioids through a prescription for the treatment of “female ailments.”

The current opioid crisis in the US is arguably the most severe in history and, like the first, features a large proportion of women. Overdose deaths have become one of the leading causes of mortality and, along with hepatitis C and suicide, have contributed to a decrease in life expectancy especially among white, middle-aged Americans. The current crisis consists of three related phases. The first began with a marked increase in opioid prescribing starting in the mid-1990s and peaked in 2010. The second was driven by illicit heroin distribution while the third phase began in 2016 powered by fentanyl and other illicitly manufactured synthetic opioids. Opioid-related drug deaths may have plateaued nationally in 2019, but a fourth wave of stimulant-related mortality (both amphetamine and cocaine) is now emerging.

The current crisis has changed the demographics of substance use and addiction. Whereas less than 20% of people who used heroin in the 1970s were women, today roughly 50% are women. Although more men have addiction than women, for opioid use disorder at least half of people presenting for treatment are female.

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Opioid use, misuse, and addiction have increased in pregnancy and postpartum, in parallel with the overall crisis. Rates of opioid use disorder assessed at the time of delivery more than quadrupled between 1999 and 2014, as have rates of neonatal abstinence syndrome (NAS), and, in many states, overdose is the leading cause of maternal death.

Opioid use and misuse

Opioids are a class of substances which bind to the opioid receptor. They are commonly utilized in anesthesia, prescribed as analgesics, employed for the treatment of opioid use disorder, and available in illicit economies (heroin and both diverted and counterfeit pills). Although data support the use of opioids for acute pain, their effectiveness for chronic pain management is limited. Details regarding opioid prescribing for pain are beyond the scope of this Protocol though general principles of care include (i) treating pain with combination therapies (both opioid and nonopioid pharmaceuticals and nonpharmacologic management), and (ii) when opioids must be used, employ the lowest dose for the shortest duration.

Risks associated with opioid use include (i) tolerance (dose increase needed to maintain effect), (ii) dependence (withdrawal symptoms upon cessation), and (iii) overdose-related morbidity and mortality. The risk of overdose is related not just to the opioid dose, but also to the concomitant use of other central nervous system (CNS) depressants (both prescribed and not prescribed) such as benzodiazepines, zolpidem and other sleep aids and alcohol. Therefore, individuals prescribed opioids for both chronic pain and addiction treatment should be co-prescribed naloxone and instructed in its use. Naloxone is an opioid antagonist, most often administered via an intranasal route, which reverses opioid overdose.

A third of individuals prescribed opioids for chronic pain report misuse. Symptoms of misuse can include taking extra medication because of the effect, running out of prescriptions early, and crushing and snorting or injecting the medication. At most, 12% of individuals prescribed opioids for chronic pain develop an opioid use disorder. Opioid misuse can be a risk factor for the development of opioid addiction. Validated instruments, such as the Opioid Risk Tool, should be utilized when initiating opioid prescribing to assess and communicate misuse and addiction risk to patients.

Screening and diagnosis

Pregnancy is an opportune time to assess behavioral health conditions in general, and substance use and addiction in particular. Universal screening with a validated instrument is recommended as a routine part of prenatal

care. The following instruments have been studied in a comparative study design: the Substance Use Risk Profile-Pregnancy (SURP-P), CRAFFT, 5Ps (parents, peers, partner, pregnancy, past), Wayne Indirect Drug Use Screener (WIDUS) and the National Institute on Drug Abuse (NIDA) Quick Screen. All perform with similar efficacy though none has both high sensitivity and high specificity. Screening should occur at the first prenatal care visit, every trimester, and, especially, postpartum. Urine drug testing is not a substitute for screening. Urine drug tests, especially point-of-care tests, do not capture certain substances (such as alcohol, nicotine and many synthetic opioids including fentanyl) and are plagued by false-positive results due to medications commonly utilized in pregnancy and during labor and delivery.

Most people who use substances quit or cut back during pregnancy. However, some people cannot, most likely because they have an addiction. While it is very rare for a woman to develop an addiction during pregnancy, some people with addiction get pregnant and may initially present for care during pregnancy. Opioid addiction (also termed opioid use disorder) is a chronic and treatable disease. Symptoms of addiction include inordinate amount of time spent craving, obtaining, using, and recovering from a substance; compulsive use; use that interferes with school, job, family, and other aspects of social life; and continued use despite harms to self and others. Opioid addiction should be diagnosed with the framework detailed in the DSM-5.

Management

Individuals with addiction need treatment. The core component of opioid addiction treatment is medication. There are three FDA-approved medications for opioid use disorder: methadone, buprenorphine, and naltrexone. Evidence for naltrexone in pregnancy is limited and therefore it is not recommended at this time. Methadone, a full opioid agonist, has been used in pregnancy since the 1960s and buprenorphine has been available in the US since 2002. Randomized trial and systematic review data demonstrate that both are safe and effective. Methadone must be dispensed from an opioid treatment program (OTP) and carries a small risk of overdose primarily during the initial phase of treatment. Buprenorphine can be dispensed from an OTP but is more often prescribed by providers who have obtained an "X waiver" from the Drug Enforcement Administration (DEA). Buprenorphine is a partial agonist and can precipitate withdrawal if given to a patient who is not already in withdrawal. Neonatal abstinence syndrome (NAS) is a possible side effect of both methadone and buprenorphine, although the severity and duration of NAS are less with buprenorphine.

Patients can be initiated on medication in either inpatient or outpatient settings at any gestational age. Both methadone and buprenorphine can be

administered in inpatient settings by providers without DEA X waivers and by health systems without attached OTPs. Details regarding medication choice are detailed in Table 3.1. However, the hospital care team must ensure presence and availability of outpatient providers for continuing care.

Initial clinical assessment should include a Clinical Opiate Withdrawal Scale (COWS), other substance use history, and HIV and HCV testing. COWS is an 11-item scale administered by a clinician which provides a summary measure of withdrawal. (There is a helpful online tool to assess COWS available at: www.mdcalc.com/cows-score-opiate-withdrawal). Medication dosage is first titrated to treat withdrawal (see Table 3.2 for draft induction protocol). Stabilization occurs within days. Further dose increases may be needed to control craving. A goal of medication-assisted treatment for opioid addiction is a clinically meaningful opioid “blockade”: the degree to which medications block the reinforcing effects of other self-administered opioids. In other words, if a patient feels an effect from an

Table 3.1 Medication choice for treatment of opioid use disorder in pregnancy and postpartum

	Benefit	Consideration
Methadone	No need for withdrawal for initiation May have better treatment adherence	Must be dispensed from an opioid treatment program Risk of overdose if rapid initial titration
Buprenorphine	Can be prescribed by waived provider Newborns may have less severe neonatal abstinence syndrome	Risk of precipitated withdrawal

Table 3.2 Buprenorphine initiation protocol example

Day 1:

- 1 Document baseline Clinical Opiate Withdrawal Scale (COWS)
- 2 Administer buprenorphine/naloxone (SL)
 - a COWS 8-10: Give buprenorphine/naloxone 2/0.5 mg
 - b COWS >10: Give buprenorphine/naloxone 4/1 mg
- 3 Repeat COWS in 1–2 hours and repeat administration of buprenorphine as above
- 4 Typical day 1 dose = 6–8 mg

Day 2:

- 1 Administer COWS and total day 1 buprenorphine
- 2 Repeat COWS in 1–2 hours and administer additional buprenorphine as above
- 3 Typical day 2 dose = 8–16 mg

Source: Based on Wesson DR, Ling W. The Clinical Opiate Withdrawal Scale (COWS). *J Psychoactive Drugs* 2003;35(2):253–9.

opioid while receiving medication for opioid addiction, then a dose increase may be indicated.

Medication for opioid addiction works. Recurrence rates for treated addiction are similar to other chronic conditions such as hypertension. Furthermore, much of the obstetric burden from substance use is from untreated rather than treated addiction. People with treated addiction have birth outcomes that are more like those without addiction than those with untreated disease.

Labor and delivery

Upon presentation to labor and delivery units, medication for opioid use disorder should be continued. People with opioid addiction may have greater analgesic needs due to both tolerance and prior negative experiences with the healthcare system. Analgesia should be multimodal. People with addiction often experience discrimination from friends and family as well as from providers. It is therefore essential that all staff treat pregnant and parenting people with opioid addiction with dignity and respect.

Postpartum

Neonatal abstinence syndrome is an expected and treatable outcome of in utero opioid exposure. Opioids are an essential but insufficient cause of NAS in part because maternal medication dose is not related to likelihood of developing NAS. Risk and protective factors for NAS are listed in Table 3.3.

Postpartum, or the fourth trimester, is a period of increased vulnerability to addiction recurrence, compounded by insurance churn, noncontinuation of medication, maternal mood changes, and withdrawal of care from

Table 3.3 Risks and protective factors for neonatal abstinence syndrome (NAS)

Factors which increase likelihood, severity, and duration of NAS	Factors that decrease likelihood, severity, and duration of NAS
Maternal medications Gabapentin Benzodiazepines Selective serotonin reuptake inhibitors	Smoking cessation Rooming-in Breastfeeding Skin-to-skin contact Preservation of the maternal–infant dyad
Maternal smoking Fetal methylation of the mu-opioid receptor Neonatal intensive care unit admission	

prenatal care providers following delivery. For reasons that are unknown, people with opioid use disorder have almost four times the odds of death during the delivery hospitalization and overdose is one of the leading causes of maternal mortality in the US today.

Conclusion

Although there has been an increase in the availability of addiction treatment in the past decade, there remains a large unmet treatment need, with only 30–70% of pregnant women with opioid addiction reporting any treatment during pregnancy. Universal assessment during prenatal care with early medication initiation with either methadone or buprenorphine are recommended. In general, women do well during pregnancy, but disease recurrence is common postpartum. Therefore, continuing care postpartum is essential. Providers need to be sensitive to the discrimination that pregnant and parenting people with opioid addiction face.

Suggested reading

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