



## Cocaine, Meth, and Other Stimulant Use During Pregnancy

Stimulants, or “uppers,” refer to any drug that increases activity of the central nervous system, essentially speeding up the body’s systems. This class of drugs includes prescription drugs such as amphetamines (e.g., Adderall and Dexedrine), methylphenidate (e.g., Concerta and Ritalin), and diet aids (e.g., Didrex, Bontril, Preludin, Fastin, Adipex P, Ionamin, and Meridia)<sup>1</sup> that are often used for medical purposes to treat mood, behavior, and sleep disorders as well as obesity. Illicitly produced stimulants include drugs such as cocaine, methamphetamine, and MDMA (commonly referred to as Ecstasy). Because stimulants can produce a euphoric feeling, or “high,” boost self-esteem, improve physical performance, and increase activity over an extended period, they are often used illegally for recreational purposes,<sup>2</sup> which can lead to prolonged misuse, abuse, and addiction.

After alcohol, stimulants are the second most widely used and abused substances in the United States, exceeding opioids and marijuana, so it should come as no surprise that use of prescription and illicit stimulants during pregnancy is growing more common.<sup>3</sup> Stimulant use during pregnancy has both short-term and long-term implications for maternal and infant health with illicit stimulant use likely associated with adverse prenatal outcomes including preterm birth and low birth weight.

### Cocaine

Estimates suggest there are 750,000 cocaine-exposed pregnancies every year.<sup>4</sup> The impact of prenatal exposure to cocaine is not fully understood, as studies have not adequately controlled for the potential influence of environmental factors and other simultaneous drug use. However, studies suggest adverse effects for both the pregnant woman and the infant. Cocaine use during pregnancy is associated with maternal migraines and seizures, premature membrane rupture, and separation of the placental lining from the uterus before delivery. The mother may also experience high blood pressure, miscarriage, preterm labor, and difficult delivery.<sup>5</sup> Additionally, the infant can have low birth weight, inhibited response to sensory stimulation as well as developmental delays and behavior disorders that persist into childhood and adolescence.

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<sup>1</sup> Drug Enforcement Agency. “Drugs of Abuse, A DEA Resource Guide (2020 Edition).” [www.DEA.org](http://www.DEA.org). U.S. Department of Justice. Accessed July 20, 2022.  
[https://www.dea.gov/sites/default/files/2020-04/Drugs%20of%20Abuse%202020-Web%20Version-508%20compliant-4-24-20\\_0.pdf](https://www.dea.gov/sites/default/files/2020-04/Drugs%20of%20Abuse%202020-Web%20Version-508%20compliant-4-24-20_0.pdf)

<sup>2</sup> Smid MC, Metz TD, Gordon AJ. Stimulant Use in Pregnancy: An Under-Recognized Epidemic Among Pregnant Women. *Clin Obstet Gynecol*. 2019 Mar; 62(1):168-184. DOI: 10.1097/GRF.0000000000000418. PMID: 30601144; PMCID: PMC6438363

<sup>3</sup> Ibid.

<sup>4</sup> Cain MA, Bornick P, Whiteman V. The Maternal, Fetal, and Neonatal Effects of Cocaine Exposure in Pregnancy. *Clin Obstet Gynecol*. 2014;56(1):124-132. DOI: 10.1097

<sup>5</sup> NIDA. 2021, July 9. What are the effects of maternal cocaine use? Retrieved from <https://nida.nih.gov/publications/research-reports/cocaine/what-are-effects-maternal-cocaine-use> on 2022, July 28



## **Methamphetamines**

Hospitalization for amphetamine abuse among pregnant women has dramatically increased in the last three decades; amphetamines are one of the primary substances that lead pregnant women to seek care. Women who use amphetamines during pregnancy can experience higher rates of cardiovascular disorders and hypertension. While conclusive research on the prenatal and postnatal effects of meth is limited, studies suggest outcomes include increased rates of preterm delivery and placental abruption. Potentially adverse effects on the infant include low birth weight, lethargy, and heart and brain abnormalities. Because methamphetamine is a neurotoxin, detrimental effects on fetal brain development are a primary concern. Research indicates infants and children prenatally exposed to meth show decreased arousal, increased stress, delayed motor development, and attention impairments, as well as cognitive and behavioral issues that impact self-control and executive functioning.<sup>6</sup>

## **Prescription stimulants**

The data on the use of prescription stimulant medications in pregnancy are not definitive. Stimulant medications are considered “Category C” medications, which means that studies of animals exposed to these medications have shown a negative effect on developing fetuses though studies in humans are too limited and inadequate to determine the risk level. Research does indicate that an increasing number of pregnant women are taking ADHD medication, so understanding the potential risks and possible alternatives is important. A recent study from the Centers for Disease Control and Prevention (CDC) found that women who took ADHD medicine during early pregnancy may be more likely to have a baby with some types of birth defects.<sup>7</sup> Other studies suggest no significant risk when used at therapeutic doses, though infants might have slightly lower birth weights. Stimulants are widely used to treat conditions such as ADHD, bipolar disorder, and depression. For some pregnant women, switching to a different medication or non-pharmacologic alternative may be recommended, but for those with moderate to severe symptoms, continuing to take the recommended dose will lead to healthier daily functioning and may be the safest option for the mother and the fetus.

## **So where does this leave us?**

The American College of Obstetricians and Gynecologists and the American Society for Addiction Medicine recommend screening all pregnant women for substance use, which includes prescription, non-medical, and illicit stimulants. The best way to do this is through a conversation utilizing a validated screening instrument, rather than urine toxicology.

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<sup>6</sup> NIDA. 2021, July 9. What are the effects of maternal cocaine use? Retrieved from <https://nida.nih.gov/publications/research-reports/cocaine/what-are-effects-maternal-cocaine-use> on 2022, July 28

<sup>7</sup> Anderson KN, Dutton AC, Broussard CS, et al. ADHD Medication Use During Pregnancy and Risk for Selected Birth Defects: National Birth Defects Prevention Study, 1998-2011. *J Atten Disord.* 2020;24(3):479-489. DOI:10.1177/1087054718759753