

Naloxone

This sheet is about exposure to naloxone in pregnancy and while breastfeeding. This information is based on available published literature. It should not take the place of medical care and advice from your healthcare provider.

What is naloxone?

Naloxone is a medication that has been used to block the effects of opioids. Examples of some opioids are heroin, morphine, codeine, oxycodone, and hydrocodone. Naloxone has also been used to stop someone from dying from an opioid overdose. Brand names for naloxone are Narcan® (nasal spray) and Evzio® (auto-injector).

The combination of naloxone and buprenorphine is sold under the brand name Suboxone®. This combination drug is used to treat opioid use disorder (“OUD”). Much of the information on naloxone in pregnancy comes from studies on the use of naloxone and buprenorphine together used rather than the study of naloxone on its own.

Sometimes when people find out they are pregnant, they think about changing how they take their medication, or stopping their medication altogether. However, it is important to talk with your healthcare providers before making any changes to how you take your medication. Your healthcare providers can talk with you about the benefits of treating your condition and the risks of untreated illness during pregnancy.

If you have been taking naloxone regularly or have OUD, talk with your healthcare provider before making changes to how you take your medication. Stopping an opioid medication suddenly (also called “cold turkey”) could cause you to go into withdrawal. It is not known if or how withdrawal might affect a pregnancy. It is suggested that any reduction in naloxone be done slowly, and under the direction of your healthcare provider.

I take naloxone. Can it make it harder for me to get pregnant?

Studies have not been done to see if taking naloxone can make it harder for to get pregnant.

Does taking naloxone increase the chance of miscarriage?

Miscarriage is common and can occur in any pregnancy for many different reasons. It is not known if naloxone can increase the chance of miscarriage.

Does taking naloxone increase the chance of birth defects?

Birth defects can happen in any pregnancy for different reasons. Out of all babies born each year, about 3 out of 100 (3%) will have a birth defect. Studies have not shown an increased chance of birth defects when taking naloxone. No studies have been done to see if treatment with naloxone for an opioid overdose in the first trimester can increase the chance of birth defects.

Some studies that have looked at opioids as a group suggest that opioids in general might be associated with an increased chance of birth defects. However, studies have not found a specific pattern of birth defects caused by opioids. Based on these studies, if there is an increased chance of birth defects with opioid use in pregnancy, it is likely to be small.

Does taking naloxone in pregnancy increase the chance of other pregnancy-related problems?

It is not known if taking naloxone can increase the chance of pregnancy-related problems. One study has shown that use of naloxone might increase the chance for pregnancy-related problems such as preterm delivery (birth before week 37)

or low birth weight (weighing less than 5 pounds, 8 ounces [2500 grams] at birth). No studies have been done to see if treatment with naloxone for an opioid overdose can increase the chance of pregnancy-related problems.

Studies find that people who are pregnant and take opioids in higher doses or for longer than recommended by their healthcare providers (i.e. misuse or “abuse” opioids) have an increased chance for pregnancy problems. These include poor growth of the baby, stillbirth, preterm delivery, and the need for C-section.

Will my baby have withdrawal (Neonatal Abstinence Syndrome) if I continue to take naloxone?

Taking naloxone in pregnancy can increase the chance of Neonatal Abstinence Syndrome (NAS) in the infant after birth. NAS is the term used to describe withdrawal symptoms in newborns from opioid medication(s) that a person takes during pregnancy. NAS symptoms can include irritability, crying, sneezing, stuffy nose, poor sleep, extreme drowsiness (very tired), yawning, poor feeding, sweating, tremors, seizures, vomiting, and diarrhea. Most often, symptoms of NAS appear 2 days after birth and may last more than 2 weeks.

The chance that NAS will occur depends on the length of time and/or the dose of opioid taken during pregnancy, if other medications were also taken, if baby was born preterm, and/or size of the baby at birth. The chance of NAS is lower with naloxone than with other medications like methadone which are also used to treat OUD. If opioid medications were taken in pregnancy, it is important to let your baby’s healthcare providers know so that they can check for symptoms of NAS and provide the best care for your newborn.

Does taking naloxone in pregnancy affect future behavior or learning for the child?

Studies have not been done to see if naloxone can increase the chance of behavior or learning issues for the child. Some studies on opioids as a general group have found more problems with learning and behavior in children exposed to opioids for a long period of time during pregnancy. However, it is hard to know if this is due to the medication exposure or other factors that might increase the chances of these problems.

Breastfeeding while taking naloxone:

Naloxone gets into breastmilk in small amounts. The amount of medication that does make it into the stomach of the nursing infant is not well absorbed by the body. If naloxone is used to treat opioid overdose, it may be suggested to stop breastfeeding until the opiate is out of the body of the person who is breastfeeding. Contact the baby’s healthcare provider immediately if your baby has any problems such as increased sleepiness (more than usual), trouble feeding, trouble breathing, or limpness. Be sure to talk to your healthcare provider about all your breastfeeding questions.

If a male takes naloxone, could it affect fertility or increase the chance of birth defects?

Studies have not been done to see if naloxone could affect male fertility (ability to get partner pregnant) or increase the chance of birth defects. In general, exposures that fathers or sperm donors have are unlikely to increase the risks to a pregnancy. For more information, please see the MotherToBaby fact sheet Paternal Exposures at <https://mothertobaby.org/fact-sheets/paternal-exposures-pregnancy/>.

Selected References:

- Blandthorn J, et al. 2018. Managing opioid overdose in pregnancy with take-home naloxone. Aust N Z J Obstet Gynaecol 58(4):460-62.
- Debelak K, et al. 2013. Buprenorphine + Naloxone in the treatment of opioid dependence during pregnancy-initial patient care and outcome data. Am J Addict; 22(3):252-54.
- Flannagan KS, et al. 2020. Prescription opioid use among populations of reproductive age: effects on fertility, pregnancy loss, and pregnancy complications. Epidemiologic reviews. 42(1): 117-33.
- Gawronski KM, et al. 2014. Neonatal outcomes following in utero exposure to buprenorphine/naloxone or methadone. 2:2050312114530282.
- Goshgarian G, et al. Prenatal Buprenorphine/Naloxone or Methadone Use on Neonatal Outcomes in Michigan. Cureus.14(8).

- Griffiths S, et al. 2021. Use of injectable opioid agonist therapy in a in-patient setting for a pregnant patient with opioid use disorder: A case report. *Journal of Addiction Medicine*. 15(5): 435-38.
- Jones HE & Kraft WK. 2019. Analgesia, Opioids, and Other Drug Use During Pregnancy and Neonatal Abstinence Syndrome. *Clin Perinatol*; 46(2):349-366.
- Jansson LM, et al. 2024. Buprenorphine-Naloxone Maintenance and Lactation. *Journal of Human Lactation* 40(1): 113-19.
- Jumah NA, et al. 2016. Observational study of the safety of buprenorphine+naloxone in pregnancy in a rural and remote population. *BMJ Open*; 6(10):e011774.
- Kanervo M, et al. 2023. Buprenorphine-naloxone, buprenorphine, and methadone throughout pregnancy in maternal opioid use disorder. *Acta Obstetrica et Gynecologica Scandinavica*. 102(3): 313-22.
- Kanervo M, et al. 2024. Intrauterine exposure to maternal opioid maintenance treatment and associated risk factors may impair child growth. *Acta Paediatrica*.
- Link HM, et al. 2020. Buprenorphine-naloxone use in pregnancy: a systematic review and metaanalysis. *Am J Obstet Gynecol MFM* 2(3):100179.
- Link, HM, et al. 2021. Buprenorphine-naloxone use in pregnancy: a subgroup analysis of medication to treat opioid use disorder. *American journal of obstetrics & gynecology MFM*. 3(5): 100369.
- Mitchell C, et al. 2020. Management of dependent use of illicit opioids. *BMJ* 368:m710. doi: 10.1136/bmj.m710.
- Müller S. 2023. Treatment of chronic nodular prurigo with intravenous naloxone during pregnancy. *Journal of the European Academy of Dermatology and Venereology*. 37(7): e912-13.
- Mullins N, et al. 2020. Buprenorphine and naloxone versus buprenorphine for opioid use disorder in pregnancy: a cohort study. *J Addict Med* 14(3):185-192.
- Nechanska B, et al. 2018. Neonatal outcomes after fetal exposure to methadone and buprenorphine: national registry studies from the Czech Republic and Norway. *Addiction* 113(7):1286-1294.
- Nguyen L, et al. 2018. Treating Women with Opioid Use Disorder during Pregnancy in Appalachia: Initial Neonatal Outcomes Following Buprenorphine+Naloxone Exposure. *Am J Addict* 27(2):92-96.
- Ordean, A. & Tubman-Broeren, M. 2023. Safety and efficacy of buprenorphine-naloxone in pregnancy: a systematic review of the literature. *Pathophysiology*. 30(1): 27-36.
- Piske M, et al. 2021. Opioid use disorder and perinatal outcomes. *Pediatrics* 148(4):e2021050279
- Preston KL, et al. 1990. Effects of sublingually given naloxone in opioid-dependent human volunteers. *Drug Alcohol Depend* 25(1):27-34.
- Wiegand SL, et al. 2016. Naloxone and Metabolites Quantification in cord Blood of Prenatally Exposed Newborns and Correlations with Maternal Concentrations. *AJP* 6(4)e385-90.
- Zelner I, et al. 2015. Acute Poisoning During Pregnancy: Observations from the Toxicology Investigators Consortium. *J Med Toxicol* 11(3):301-08.