



[National Institute on Drug Abuse \(NIDA\)](#)

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Contact:
[Stephanie Older](#)
301-443-6245

Buprenorphine treatment in pregnancy: less distress to babies

NIH study compares buprenorphine to methadone in opioid addicted pregnant women

Babies born to women addicted to opioids fare better when their mothers are treated with either the addiction medication buprenorphine or methadone than babies whose mothers are not treated at all. In this comparative effectiveness trial, buprenorphine was found to be superior to methadone in reducing withdrawal symptoms in the newborns, according to a recent study funded by the National Institute on Drug Abuse (NIDA), a component of the National Institutes of Health. The study, conducted by a multi-disciplinary team of researchers from North America and Europe, was published today in the *New England Journal of Medicine*.

Methadone is currently the recommended treatment for opioid-addicted pregnant women, and when properly used is considered relatively safe for the fetus. However, it is associated with neonatal abstinence syndrome (NAS) — a cluster of symptoms stemming from opioid withdrawal in the newborn — often requiring medical treatment and extended hospital stays. Buprenorphine is a more recently approved medication for treating opioid addiction, but less is known about its effects in pregnant women and their babies. This study found that, compared to methadone, buprenorphine resulted in similar maternal and fetal outcomes, yet had lower severity of NAS symptoms, thus requiring less medication (1.1 versus 10.4 milligrams) and less time in the hospital for their babies (10 versus 17.5 days).

"Finding medications to help an addicted mother and her newborn is crucial," said Dr. Nora D. Volkow, director of NIDA. "By comparing two effective medications for treating opioid addiction, this study will give health care providers and their patients vital information that will help them choose the treatment offering the greatest benefits."

The research project, called The Maternal Opioid Treatment: Human Experimental Research (MOTHER), was one of the first to prospectively follow opioid-dependent pregnant women from enrollment until at least 28 days after giving birth. Women who volunteered for the study were addicted to opioids, such as heroin or prescription painkillers, with low rates of other illicit drug use, which meant the NAS could be clearly attributable to the opioids. In all, the eight-site international study included 131 mothers and their newborns.

"In addition to providing support for the viability of buprenorphine to treat pregnant women, we were able to closely examine the severity of NAS following prenatal exposure to methadone or buprenorphine," said Dr. Hendree Jones, the primary study author. "We were pleased to be able to identify a medication that lessens the withdrawal distress to newborns, and gets them out of the hospital more quickly." Dr. Jones is a senior researcher at Research Triangle Institute International and professor in the departments of Psychiatry and Obstetrics and Gynecology at Johns Hopkins University, Baltimore.

The study can be found online at www.nejm.org.

A similar study titled Revised Dose Schema of Sublingual Buprenorphine in the Treatment of the Neonatal Opioid Abstinence Syndrome was published Oct. 6, 2010 in *Addiction*, by Kraft et al. To read the abstract, please go to <http://onlinelibrary.wiley.com/doi/10.1111/j.1360-0443.2010.03170.x/abstract>.

Methadone maintenance treatment has been used for more than 40 years. When properly used, it can safely and effectively treat heroin addiction. In the United States, its use as a treatment for addiction is restricted to specialized opiate treatment programs. Combined with behavioral therapies or counseling and other supportive services, methadone enables patients to stop using heroin and other opiates and return to more stable and productive lives.

Buprenorphine is a newer medication, approved by the FDA in 2002, for the treatment of opioid addiction in non-pregnant

patients. It has weaker opioid effects than methadone and is less likely to produce overdose. Buprenorphine also produces a lower level of physical dependence, so patients who discontinue the medication generally have fewer withdrawal symptoms than do individuals who stop taking methadone. Buprenorphine can be prescribed to treat opioid addiction in the privacy of a certified physician's office.

The National Institute on Drug Abuse is a component of the National Institutes of Health, U.S. Department of Health and Human Services. NIDA supports most of the world's research on the health aspects of drug abuse and addiction. The Institute carries out a large variety of programs to inform policy and improve practice. Fact sheets on the health effects of drugs of abuse and information on NIDA research and other activities can be found on the NIDA home page at www.drugabuse.gov. To order publications in English or Spanish, call NIDA's new DrugPubs research dissemination center at 1-877-NIDA-NIH or 240-645-0228 (TDD) or fax or email requests to 240-645-0227 or drugpubs@nida.nih.gov. Online ordering is available at <http://drugpubs.drugabuse.gov>. NIDA's new media guide can be found at <http://drugabuse.gov/mediaguide>.

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