



## Protocol 21: Guidelines for Breastfeeding and Substance Use or Substance Use Disorder

Sarah Reece-Stremtan, Kathleen A. Marinelli, and the Academy  
of Breastfeeding Medicine

A central goal of the Academy of Breastfeeding Medicine is the development of clinical protocols for managing common medical problems that may impact breastfeeding success. These protocols serve only as guidelines for the care of breastfeeding mothers and infants and do not delineate an exclusive course of treatment or serve as standards of medical care. Variations in treatment may be appropriate according to the needs of an individual patient.

### *Purpose*

The choice of breastfeeding by a pregnant or newly postpartum woman with a history of past or current illegal/illicit drug abuse or legal substance use or misuse is challenging for many reasons. The purpose of this protocol is to provide literature-based guidelines for the evaluation and management of the woman with substance use or a substance use disorder who is considering breastfeeding.

### *Background*

Illicit drug use and legal substance use/abuse remain a significant problem among women of childbearing age. The 2013 National Survey on Drug Use

and Health revealed that among pregnant women 15 to 44 years of age in the United States, 5.2% had used illicit drugs in the past month, 9.4% reported current alcohol use, 2.3% reported binge drinking, 0.4% reported heavy drinking during the pregnancy, and 15.4% reported cigarette use in the past month.<sup>16</sup>

The health care provider presented with a pregnant or recently postpartum woman with a history of current or past illegal drug abuse or legal drug use or misuse who desires to breastfeed often faces multiple significant challenges. Substance use disorders frequently engender behaviors or conditions that independently signify risk for the breastfed infant, in addition to the drug exposure per se. These mothers may have coexisting risk factors such as low socioeconomic status (although substance use crosses all socioeconomic lines), low levels of education, poor nutrition, and little to no prenatal care. Multiple drug use is common, in addition to the use of other harmful legal substances, including tobacco and alcohol. Illicit drugs are frequently mixed and extended with dangerous adulterants that can pose additional threats to the health of the mother and the infant. Drug users are at high risk for infections such as human immunodeficiency virus and/or hepatitis B and C. Psychiatric disorders that require pharmacotherapeutic intervention are more prevalent with substance use,

making breastfeeding an even more complicated choice, as breastfeeding may not be recommended for women taking some psychotropic medications.

Despite the myriad factors that may make breastfeeding a difficult choice for women with substance use disorders, drug-exposed infants, who are at a high risk for an array of medical, psychological, and developmental issues, as well as their mothers, stand to benefit significantly from breastfeeding. Although many of the factors listed earlier may pose a risk to the infant, the documented benefits of human milk and breastfeeding must be carefully and thoughtfully weighed against the risks associated with the substance that the infant may be exposed to during lactation. Confounding many efforts to examine longer-term developmental outcomes in infants exposed to some substances is the lack of data evaluating infants who were not exposed during pregnancy but only during lactation.

Ideally, women with substance use disorders delivering an infant and desiring to breastfeed are engaged in comprehensive health care and substance abuse treatment during pregnancy, but this is not always the case. Substance abuse treatment for these women is often not available, not gender specific, and not comprehensive, forcing the mother's health care provider during and after pregnancy to rely on maternal self-report and a "best guess" at adequacy of services, compliance to treatment, length of "clean" time, community support systems, and so forth. In a recent retrospective study in the United Kingdom, significantly lower rates of breastfeeding initiation occurred in mothers who used illicit substances or opioid maintenance therapy during pregnancy (14% vs. 50% of the general population).<sup>17</sup> In Norway, among opioid-dependent women on opioid maintenance therapy, 77% (compared with 98% in the general population) initiated breastfeeding after delivery.<sup>53</sup>

The specific terms used to describe use and misuse of various legal and illegal substances continue to evolve and may vary from country to country and among different organizations. The fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders* combines the previous categories of substance

abuse and substance dependence into the category single substance use disorder, which is measured on a continuum from mild to severe.<sup>14</sup>

We would like to make it clear that drugs of any type should be avoided in pregnant and breastfeeding women, unless prescribed for specific medical conditions. The casual use of drugs—legal, illegal, illicit, dose appropriate or not—still may have ramifications for the developing fetus and infant that we have yet to determine; hence, in general, drugs of all types should be avoided unless medically necessary.

### Specific Substances

Perhaps the most critical challenge facing the health care provider for the woman with a substance use disorder who wishes to breastfeed is the lack of research leading to evidence-based guidelines. Table J-20 gives two online websites, one in English and one in both English and Spanish, that are kept updated and are easily accessible for current information on drugs and breastfeeding. There have been several comprehensive reviews of breastfeeding among substance-using women, essentially concluding that breastfeeding is generally contraindicated in mothers who use illegal drugs.<sup>12,48,47,16</sup> (III) (Quality of evidence [levels of evidence I, II-1, II-2, II-3, and III] is based on the U.S. Preventive Services Task Force Appendix A Task Force Ratings<sup>4</sup> and is noted throughout this protocol in parentheses.) Yet, research on individual drugs of abuse remains lacking and difficult to perform. Pharmacokinetic data for most drugs of abuse in lactating women are sparse and based on small numbers of subjects and case reports.<sup>47</sup> Most illicit drugs are found in human milk, with varying degrees of oral bioavailability.<sup>47</sup> Phencyclidine hydrochloride has been detected in human milk in high concentrations,<sup>30</sup> as has cocaine,<sup>54</sup> leading to infant intoxication.<sup>11</sup> There is little to no evidence to describe the effects of even small amounts of other drugs of abuse and/or their metabolites in human milk on infant development aside from those discussed later.

TABLE J-20 Online Websites with Updated Breastfeeding and Drug Information

Website	URL	Language
U.S. National Library of Health, National Institute of Health, U.S. Department of Health and Human Services, "LactMed"	<a href="http://toxnet.nlm.nih.gov/newtoxnet/lactmed.htm">http://toxnet.nlm.nih.gov/newtoxnet/lactmed.htm</a>	English
e-Lactancia	<a href="http://e-lactancia.org/">http://e-lactancia.org/</a>	English
Association for Promotion and Cultural and Scientific Research of Breastfeeding Under a Creative Commons International License	(Also contains medical prescriptions, phytotherapy, homeopathy and other alternative products, cosmetic and medical procedures, contaminants, maternal and infant diseases, and more)	Spanish

## METHADONE

For pregnant and postpartum women with opioid dependence in treatment, methadone maintenance has been the treatment of choice in the United States, Canada,<sup>56</sup> and many other countries. In contrast to other substances, concentrations of methadone in human milk and the effects on the infant have been studied. The concentrations of methadone found in human milk are low, and all authors have concluded that women on stable doses of methadone maintenance should be encouraged to breastfeed if desired, irrespective of maternal methadone dose.\* (II-1, II-2, II-3) Previously, no apparent effects of methadone exposure prenatally and in human milk were reported on infant neurobehavior at 30 days.<sup>27</sup> Recently an ongoing longitudinal follow-up study of methadone-exposed infants with 200 methadone-exposed and nonexposed, demographically matched families has shown neurocognitive delays in methadone-exposed 1-month-old infants compared with nonexposed infants. When retested at 7 months, methadone-exposed infants were similar to nonexposed, comparison infants. At 9 months of age, 37.5% of this sample of methadone-exposed infants showed clinically significant motor delays ( $\pm 1.5$  standard deviation) compared with low but typical development in the comparison group.<sup>36</sup> Exposed infants typically have high environmental risk profiles, which continue at birth, posing ongoing risk to the developing child.

The current thought is that environmental risk factors combine with prenatal exposures to promote epigenetic changes in gene expression and methylation patterns that have both immediate and long-term implications related to developmental programming.<sup>28</sup> Note that these findings relate to infants exposed to methadone both prenatally and after birth via breastfeeding, and there is little information available on infants with chronic methadone exposure via breastfeeding alone.

In addition, about 70% of infants born to women prescribed methadone during pregnancy will experience neonatal abstinence syndrome (NAS),<sup>32</sup> the constellation of signs and symptoms often presenting following in utero opioid exposure. Infants with significant NAS can experience difficulties with attaching and sucking/swallowing during breastfeeding that can impact their ability to breastfeed. However, given that there is increasing evidence supporting the conclusion that there is a reduction in the severity and duration of treatment of NAS when mothers on methadone maintenance therapy breastfeed, breastfeeding for these dyads should be encouraged.<sup>53,7,1,27</sup> (II-1, II-3) Unfortunately, the rate

of breastfeeding initiation in this cohort is generally low, less than half that reported in the U.S. general population.<sup>52</sup> A small recent qualitative study demonstrated that lack of support from the health care community and misinformation about the dangers of breastfeeding while on methadone therapy are significant, yet modifiable, barriers to breastfeeding success in these women.<sup>13</sup> Given the benefits to these mothers and infants to remain on methadone maintenance therapy and breastfeed, it is important for us to provide robust ongoing support for this vulnerable group.

## BUPRENORPHINE

Buprenorphine is a partial opioid agonist used for treatment of opioid dependency during pregnancy in some countries and increasingly in the United States. Multiple small case series have examined maternal buprenorphine concentrations in human milk. All concur that the amounts of buprenorphine in human milk are small and are unlikely to have short-term negative effects on the developing infant.<sup>26,19,38,29,18,43</sup> In one study, 76% of 85 maternal-infant pairs breastfed, with 66% still breastfeeding 6 to 8 weeks postpartum. The breastfed infants had less severe NAS and were less likely to require pharmacological intervention than the formula-fed infants, similar to methadone discussed earlier, although this did not reach statistical significance with the size of the sample studied.<sup>43</sup>

## OTHER OPIOIDS

Use of opioids in the United States has increased substantially over the past decade. A retrospective cross-sectional analysis of NAS in hospital births in the years from 2000 to 2009 found an increase in incidence from 1.2 to 3.39 per 1000 births. Antepartum maternal opioid use was also found to have risen from 1.19 to 5.63 per 1000 hospital births from 2000 to 2009; any use of opioids was included in data collection.<sup>44</sup> A recent Centers for Disease Control and Prevention Morbidity and Mortality Weekly Report highlighted data demonstrating that approximately one third of women of reproductive age filled a prescription for opioids each year between 2008 and 2012.<sup>10</sup>

When use of narcotics during pregnancy is determined to be consistent with an opioid use disorder rather than a modality for short-term pain relief, consideration of initiation of maintenance methadone or buprenorphine as previously discussed is strongly encouraged,<sup>56,2,57</sup> and these mothers should be supported in breastfeeding initiation. (III) Short courses of most other low-dose prescription opioids can be safely used by a breastfeeding mother,<sup>41,22</sup> but caution is urged with

\*Refs. 53,55,39,6,7,1,27,40,36,28.

codeine, as CYP2D6 ultra-rapid metabolizers may experience high morphine (metabolite) blood levels, and there has been a single case report of a breastfeeding neonatal death after maternal use.<sup>37</sup> (III) Information is lacking on the safety of breastfeeding when moderate to high doses of opioids are used for long periods of time. There is also a lack of information available about transitioning mothers from short-acting opioids to opioid maintenance therapy while breastfeeding rather than during pregnancy.