

JOHNS HOPKINS ALL CHILDREN'S HOSPITAL

# NICU Human Milk and Substance Exposure Clinical Pathway

Johns Hopkins All Children's Hospital

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Updated: April 13, 2023

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*This pathway is intended as a guide for physicians, physician assistants, nurse practitioners and other healthcare providers. It should be adapted to the care of specific patient based on the patient's individualized circumstances and the practitioner's professional judgment.*

# NICU Human Milk and Substance Exposure Policy

## Clinical Pathway

### Rationale

The American Academy of Pediatrics (AAP) and the World Health Organization (WHO) recommend breastfeeding and human milk as the normative standard for infant feeding and nutrition. The benefits of human milk feedings are well established. The possible effects of exposure to illicit and prescribed substances through human milk are in many cases not fully known. Guidance is needed regarding breastfeeding and human milk feedings and possible infant exposures.

### Background / Published Data and Levels of Evidence

- A. The benefits of breastfeeding and human milk feedings are well established. The JHACH Division of Neonatology encourages all mothers to provide mother's own milk feedings (breastfeed or provide expressed milk feedings) when possible.
- B. The dosing of most prescription medications results in minimal transfer to human milk. However, maternal dosing with certain medications may be a contraindication to providing mother's own milk feedings secondary to known or unknown risks of exposure to the newborn (Level 5, Level 3A).
  - 1. The most comprehensive source of information regarding the safety of maternal medications and breastfeeding is the Drugs and Lactation Database (LactMed), published by the National Library of Medicine and National Institutes of Health. <https://www.ncbi.nlm.nih.gov/books/NBK501922/>
- C. Exposure to illicit substances through mother's own milk feedings may result in neurodevelopmental and other physiologic risks to the infant (Level 2A).
  - 1. AAP Policy Statement (Revised 2022): Substances such as illicit opioids, cocaine, and phencyclidine are considered contraindications to breastfeeding because of their potential effect on the infant's long-term neurobehavioral development.
- D. There is insufficient information regarding the effect of marijuana use and exposure through breastmilk (Level 4).
  - 1. AAP Policy Statement (Revised 2022): Current data are insufficient to assess the effects of exposure of infants to maternal marijuana use during breastfeeding. As a result, maternal marijuana use while breastfeeding is discouraged. Because the potential risks of infant exposure to marijuana metabolites are unknown, women should be informed of the potential risk of exposure during lactation and encouraged

- to abstain from using any marijuana products and avoid second-hand marijuana smoke exposure.
2. ACOG Committee Opinion (2017): There are insufficient data to evaluate the effects of marijuana use on infants during lactation and breastfeeding, and in the absence of such data, marijuana use is discouraged.
  3. ABM Clinical Protocol (2015): Counsel mothers who admit to occasional or rare use to avoid further use or reduce their use as much as possible while breastfeeding. When advising mothers on the medicinal use of marijuana during lactation, one must take into careful consideration and counsel on the potential risks of exposure of marijuana and benefits of breastfeeding to the infant. The lack of long-term follow-up data on infants exposed to varying amounts of marijuana via human milk, coupled with concerns over negative neurodevelopmental outcomes in children with in utero exposure, should prompt extremely careful consideration of the risks versus benefits of breastfeeding in the setting of moderate or chronic marijuana use. At this time, although the data are not strong enough to recommend not breastfeeding with any marijuana use, we urge caution.
  4. Effect of marijuana use and exposure through breastmilk is difficult to differentiate from the effect of prenatal exposure. An average of 2.5% of maternal THC is detected in breastmilk. Studies assessing the long-term effect of prenatal marijuana exposure also remain limited:
    - a. Fried et al, OPPOS longitudinal cohort study, initiated 1978, associated long-term developmental and cognitive effects through 16 yrs of age.
    - b. MHPCD cohort study, initiated 1982, reported associated developmental, cognitive, and psychiatric effects through 21 years of age.
    - c. Alvarez et al (2018), retrospective review of developmental milestones at 6, 9, 12, 15, 18 and 24 months, associated developmental delay, fine motor and social/behavioral (AAP Abstract).

## **Clinical Management**

### **A. Screening**

1. All mothers will be screened for current prescription medication use and other substance use, to include a review of all available records and laboratory illicit drug use screenings, direct questioning, as well as other available resources.
2. Infant laboratory drug screenings will be reviewed if available.
3. A Lactation Consultant will complete a consultation for all NICU admissions.

### **B. Prescription Medication Exposure**

1. Maternal dosing with certain medications may be a contraindication to providing mother's own milk feedings secondary to risks of exposure to the newborn. All maternal prescription medications will be reviewed by the medical care team and recommendations regarding mother's own milk feeding will be formulated and documented. Collaboration with a Clinical Pharmacist when indicated, in addition to the Lactation Consultant, is recommended.
2. Mothers on clinically appropriate opioid dosing for the treatment of chronic pain under the confirmed supervision of a physician will be encouraged to provide mother's own milk feedings.

3. Mothers on clinically appropriate dosing of prescribed medical-use marijuana will be provided education regarding the possible risks of marijuana exposure (see below), and the medical care team, Clinical Pharmacist, and Lactation Consultant will formulate and document recommendations regarding mother's own milk feeding.
  4. Mothers with multiple prescribed medications should have prescriptions and dosages carefully reviewed for drug potentiation by the medical care team, Clinical Pharmacist, and Lactation Consultant, and recommendations regarding mother's own milk feeding formulated and documented.
- C. Illicit Opioid Exposure
1. In accordance with the AAP Policy Statement and Academy of Breastfeeding Medicine's (ABM) Clinical Protocol, mothers with a history of illicit substance use enrolled in and compliant with a substance dependence treatment program (most commonly methadone maintenance or buprenorphine program) will be encouraged to provide mother's own milk feedings. Compliance will be determined to be a period of at least 90 days.
  2. Compliance with a treatment program should be confirmed by direct communication with the treatment program when possible, and documentation of a negative hospital admission drug screen and a negative drug screen dating to at least 30 days prior to admission. (Drug screens are expected to be positive for any maintenance medication, i.e. methadone. Buprenorphine is not detected on some available testing).
- D. Cocaine Exposure
1. Mothers with drug screen positive for cocaine on admission will not be permitted to provide mother's own milk feedings and should be referred to a substance abuse treatment program.
  2. Mothers with drug screen positive for cocaine during the pregnancy will be permitted to provide mother's own milk feedings only if verified to be enrolled in and compliant with a substance abuse treatment program for a minimum of 90 days, with documentation of a negative hospital admission drug screen and a negative drug screen dating to at least 30 days prior to admission.
- E. Polysubstance or Other Illicit Substance Exposure
1. Mothers with a known history of use of multiple illicit substances or other illicit substances during the pregnancy, with negative screening at admission, enrolled in and compliant with a substance abuse treatment program for a minimum of 90 days, should be carefully assessed for compliance with therapy programs by the medical care team and Lactation Consultant, and recommendations regarding mother's own milk feeding formulated and documented.
- F. Marijuana Exposure
1. Mothers with drug screen(s) positive for marijuana use during the pregnancy or at hospital admission, without concerns for other illicit substance use and/or meeting criteria above, will be permitted to provide mother's own milk feedings. All mothers will complete a timely evaluation by Social Services and must agree to abstain from further use to maintain breastfeeding. Typical use patterns of marijuana are sporadic. Education will be provided regarding risks of continued use and infant exposure.
- G. Parental Education
1. Opioids: Although concentrations of methadone and other opioids in human milk have been shown to be low, irrespective of maternal dose, mothers on methadone and other

opioids providing mother's own milk should be counselled that long-term outcome data regarding low-dose opioid exposure from human milk feeding is limited.

2. Marijuana: Education will be provided regarding potential health risks of chronic marijuana exposure, potential risks to the infant of maternal sedative effects, and emerging evidence that infants exposed to marijuana through second-hand smoke or mother's own milk may be at risk for adverse long-term developmental, cognitive, and behavioral outcomes.
  - i. The CDC provides an education reference for parents, *What You Need to Know About Marijuana Use and Pregnancy* (available in English and Spanish).  
<https://www.cdc.gov/marijuana/health-effects/pregnancy.html>

#### H. Social Management

1. A Social Services consultation will be completed for all mothers with a history of past or current illicit or unprescribed substance use, all mothers being treated with opioid or other medications for chronic pain, and all mothers on psychotropic medications, in order to assist with screening and to help identify individual needs and best available support.
2. A Department of Children and Families (DCF) report will be made for all cases of newborns exposed to illicit or unprescribed substances.

### Summary

- A. The Division of Neonatology encourages all mothers to provide mother's own milk feedings (breastfeed or provide expressed milk feedings) when possible.
- B. Maternal dosing with certain medications may be a contraindication to providing mother's own milk feedings secondary to risks of exposure to the newborn. Collaboration with a Lactation Consultant, and when indicated a Clinical Pharmacist, is recommended.
- C. Mothers with a history of illicit substance use during the pregnancy may not be permitted to provide mother's own milk feedings secondary to concerns for risks of exposure to the newborn.
- D. Mothers with a past history of illicit substance use, but currently compliant with a therapeutic treatment program, will be encouraged to provide mother's own milk feedings.
- E. Mothers with drug screen(s) positive for marijuana use during the pregnancy or at admission will be permitted to provide mother's own milk feedings with agreement to abstain from further use. Education will be provided regarding possible risks of continued infant exposure.

### Glossary

AAP: American Academy of Pediatrics  
ABM: Academy of Breastfeeding Medicine  
CDC: Center for Disease Control  
ACOG: American College of Obstetrics and Gynecology

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## Outcome Measures

1. Breastfeeding and breast milk feeding initiation.
2. Breastfeeding and breast milk feeding at hospital discharge.

## Appendix

Clinical Pathway Team

NICU Human Milk and Substance Exposure Policy

Clinical Pathway

*Johns Hopkins All Children's Hospital*

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Date Approved by JHACH Clinical Practice Council:

Date Available on Webpage: June 12, 2023

Last Revised: April 13, 2023

Last Formatted: April 13, 2023

**Disclaimer**

*Clinical Pathways are intended to assist physicians, physician assistants, nurse practitioners and other health care providers in clinical decision-making by describing a range of generally acceptable approaches for the diagnosis, management, or prevention of specific diseases or conditions. The ultimate judgment regarding care of a particular patient must be made by the physician in light of the individual circumstances presented by the patient.*

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