Optimizing Health, Developmental, & Safety Outcomes for Drug Affected Infants

Understanding Potential Effects of Prenatal Exposure and Interventions


Ohio Child Welfare Training Program
COMPLEX RISK FOR MOTHER‐BABY DYAD—There is no magic prediction of long-term outcomes for a drug exposed infant. It is not the drug alone that creates risk for the baby. It is the broader influence of what the baby experiences prenatally and postpartum, day by day, that impacts outcomes.

WORKING TOWARD BEST OUTCOMES
A baby who experiences a nurturing, stable environment with a confident intuitive caregiver will be supported in overcoming many of their prenatal risk factors. Emphasis is on the reality that baby will show you one day at a time what they need. What we do matters!

Neonatal Abstinence Syndrome is a constellation of signs and symptoms which result from the abrupt cessation of a drug to which the fetus/neonate has become physiologically dependent. The infant is NOT born addicted, they are born with a physiologic dependency due to their prenatal exposure. Avoid stigmatizing a newborn!

UNDERSTANDING POTENTIAL EFFECTS OF PRENATAL EXPOSURE AND INTERVENTIONS AND THE CHILD WELFARE TEAM
SUPERVISORS
CAREGIVERS
CHILD WELFARE WORKERS

Key Points

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Understanding Potential Effects of Prenatal Exposure and Interventions Foreword

Substance use in Pregnancy: “Many years ago, it was believed that the placenta protected the baby from harmful substances. We now know that the placenta is not a perfect barrier. Alcohol, street drugs, and most medications pass easily through the placenta to the baby. Although we are learning more about the impact of substance use in pregnancy there is still a lot of misinformation about this serious health issue, and much that we still do not know.”

- Baby Steps, 2014

I have had the privilege, for many years, of working with so many amazing families caring for these precious babies. I have had the honor of coming alongside foster and kinship caregivers in my role as a trainer and coach through the child welfare system. Through my work as a nurse care coordinator, educator and coach, as part of a MOMS Grant Program housed at a Women’s Recovery Center, I have been grateful to broaden my knowledge and increase my understanding of the complexity of addiction and the importance of supporting the mother-baby dyad to promote best outcomes for them both. In my personal life, our family has experienced the joys and challenges of caring for “at-risk” little ones through foster care, kinship care and adoption. What I have learned through the years, through these varied roles, is that every baby is unique and that there is always something new to learn! It is crucial when striving to support best short and long-term outcomes that at the time of transition the support team assesses baby’s risks and strengths as well as the caregiver’s strengths and struggles. The support team should be intentional about building education and supports that help caregivers feel confident. These foundational skills and knowledge support stability in the caregiving environment and optimizes baby’s health and development outcomes.

- Ronna Johnson APRN, CPNP, CEIM, Trainer, Coach, Consultant
Complex Risks for Mother-Baby Dyad

There is no magic prediction of long-term outcomes for a drug exposed infant. **It is not the drug alone that creates risk for the baby.** It is the broader influence of what the baby experiences prenatally and postpartum, day by day, that impacts outcomes.

**Women with Substance Use Disorder (SUD) often struggle with:**

- Poverty
- Chronic Health Concerns
- Violence in the home and/or community
- Untreated Mental Health Concerns
- Homelessness
- Lack of support and protection from an early age
- Generational Addiction Experience
- Complex Trauma Events

As baby shares mom’s body and her stressors, **risk for Prenatal Toxic Stress** is created. This can impact the foundation of baby’s brain development.

**Baby has potential layers of risk:**

- Prenatal Course
- Post-natal Environment
- Genetics
- Trauma Experiences

**Quotes from Caregivers**

Consider yourself a partner in the care of this baby — your insight and experience is a huge part of the recovery of this baby and their family. —Kelli V.
A baby who experiences a nurturing, stable environment with a confident intuitive caregiver will be supported in overcoming many of their prenatal risk factors. Emphasis should be on the reality that the baby will show you one day at a time what they need. What we do matters!

The POWER OF NURTURE

A nurturing stable home environment combined with early and strong caregiver attachment bond optimizes children’s health, development, and safety.

Work toward best outcomes by:

- Attuning to baby’s needs
- Building strong attachment bonds
- Providing nurturing touch
- Accessing Early Intervention supports

Quotes from Caregivers

I wish I would have engaged more people with experience on these babies before any came into my home. Learning on the spot is less helpful to Baby than someone that is at least a little more prepared for their needs. More education in comfort measures and care for Baby beforehand would have benefitted everyone.

—Nicole M.
EFFECTS OF PRENATAL EXPOSURE DEPENDS ON THESE FACTORS

How a drug **AFFFECTS** a baby’s development prenatally depends on the stage of development **AND** the strength, dose, and type of drug at time of exposure. Most babies have **“poly substance exposure”** - multiple drugs they are exposed to during pregnancy.

There are characteristics and symptoms that drug exposed babies will have in common. The nature, frequency and timing of these will depend on a number of factors:

It needs to be stated that no two babies will react exactly alike and that it should be the responsibility of the caregiver to carefully monitor and “read” their infant and his signs. —Picc.net
Prenatal Substance Exposure:

Potential Effects

Most babies have poly-substance exposure and will have unique responses. The information provided for each drug listed is generalized and is not inclusive of all potential effects. (Baby Steps 2014)

**NICOTINE**
- Most commonly used drug during pregnancy
- At risk for low birth weight and small head circumference
- Increased risk of SIDS, ear infections, bronchitis, and pneumonia
- Use with opiates increases risk of Neonatal Abstinence Syndrome

**MARIJUANA**
- Associated with low birth weight and Small for Gestational Age (SGA)
- Increased SIDS risk, may also have short term symptoms of fine tremors, crying, or hiccups
- THC concentrates in breast milk—higher levels than in Mom’s blood stream

**ALCOHOL**
- Central nervous system of developing baby is vulnerable throughout pregnancy
- Differs from most other commonly used substances as it causes permanent physical changes in the developing brain.
- Creates a spectrum of physical, cognitive, behavioral and developmental challenges
- Prenatal alcohol exposure is most common cause of preventable neurological damage in children
- Misinformation and minimization of potential effects increases risk

**COCAINE**
- At-risk for low birth weight with small head circumference
- Use in later pregnancy can cause placental abruption, leading to severe bleeding, significant prematurity, risk of fetal death
- Can cause dramatic elevations in mom’s blood pressure, constricting blood vessels in the placenta, restricting blood flow to baby creating risk for small strokes and damage to heart, kidney, and eyes
- Tremors, poor feeding, irritability, hypertonicity, high pitch cry may be results of effect on developing brain and nervous system—not specifically withdrawal

**To Learn More Scan QR Code**

NOFAS.org

June 2020 OCWTP 7
Most babies have poly-substance exposure and will have unique responses. The information provided for each drug listed is generalized and is not inclusive of all potential effects. (Baby Steps 2014)

**PSYCHOTROPICS**

- Level builds over time then decreases gradually when the drug is removed, signs of infant withdrawal aren't generally seen until 1-3 weeks after birth.
- Symptoms of withdrawal include: irritability, inability to sleep or relax, sensitivity to stimuli, difficulty feeding.
- Gabapentin in particular, used as a mood stabilizer or for chronic pain, can result in prolonged dramatic withdrawal symptoms.

**OPIATES**

- Create risk for Neonatal Abstinence Syndrome (NAS) with life threatening implications.
- NAS may mandate extended hospital stay for pharmacological and non-pharmacological weaning, creating complex care and interrupted parent/child bonding.
- Increased risk of abuse and neglect if baby continues to experience feeding, sleep, and/or consolability challenges.

**METHAMPHETAMINE**

- Often co-used with alcohol and nicotine.
- May decrease blood flow to placenta leads to prematurity, Small for Gestational Age (SGA), small head circumference, low birth weight.
- Low interest in feeding, problems with suck/swallow, excessive deep sleep with difficulty waking to feed—**can result in extended newborn stay until feeds established and consistent weight gain is demonstrated**.
- Sensory sensitivity to sound, touch, texture.
- Excoriated bottom, acid in drug causes burn as it leaves baby’s system.

**Common Withdrawal Symptoms**

- W = Wakefulness, decreased quiet sleep, easy arousal
- I = Irritability, difficulty self-calming, high pitch cry
- T = Tremors, twitching (seizures on rare occurrence)
- H = Hypertonia (stiff muscles), hyperactive reflexes
- D = Diarrhea (explosive stools), Diaphoresis (sweating)
- R = Regurgitation and/or weak or frantic suck
- A = Apnea (Breathing problems)
- W = Weight related issues; weight loss or Failure to Thrive

**Drugs which may cause withdrawal symptoms**

- *Opiates
- *Alcohol
- *Nicotine
- *Prescription Drugs: SSRI, Anti-Anxiety, mood stabilizers, seizure drugs, narcotic pain medications


**NEONATAL ABSTINENCE SYNDROME (NAS)**

NAS, or also known as NOWS (Neonatal Opiate Withdrawal Syndrome), is a constellation of signs and symptoms which result from the abrupt cessation of a drug to which the fetus/neonate has become physiologically dependent. The infant is **NOT** born addicted, they are born with a physiologic dependency due to their prenatal exposure. **AVOID STIGMATIZING A NEWBORN!**

### Opioids and NAS

<table>
<thead>
<tr>
<th>Exposure leads to some degree of NAS in 60-90% of infants – regardless of the type of opiate, illicit or prescribed, that mother uses during pregnancy</th>
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<tbody>
<tr>
<td>Risk of withdrawal is not dependent on maternal dosage or duration of misuse, there are many variables</td>
</tr>
<tr>
<td>40% of infants respond to supportive care</td>
</tr>
<tr>
<td>60% of infants require pharmacologic treatment</td>
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<tr>
<td>Severe symptoms in the first 4-8 weeks</td>
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<tr>
<td>Sub-acute symptoms may persist up to 6 months or more</td>
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![Diagram showing factors influencing NAS](image-url)
NEONATAL ABSTINENCE SYNDROME (NAS)

Symptoms May Include

**Neurologic**
- Excessive high pitch cry, short and/or irregular sleep cycles, tremors and irritability, increased muscle tone, myoclonic jerks, exaggerated startle, seizures, frequent sneezing and/or yawning

**Gastrointestinal**
- Excessive suck, poor feeding, discoordinated suck and swallow, vomiting, loose stools, poor weight gain

**Autonomic**
- Sweating, low grade fever, nasal stuffiness, rapid breathing, mottling of skin

Onset of Neonatal Abstinence Syndrome can vary depending on which opioid baby was exposed to:

- **Heroin** or other short acting opioids will typically present symptoms within 2-3 days of delivery (Beauman, 2005; Chan, Klein, & Koren, 2003)
- **Methadone or buprenorphine** (Subutex/suboxone) will exhibit NAS symptoms within the first four days of birth (Jansson, Velez, & Harrow, 2009)
- **Psychotropic** drugs can exhibit symptoms between 1-3 weeks

Quotes from Caregivers

After my many years of fostering NAS babies, one theme remains true... though all are the same, each are also uniquely different. Fostering these special babies requires patience, perseverance and at least for me prayer. Studying them while in the throes of their most vulnerable and indeed painful, state will give great insight to their uniqueness and vulnerabilities. Only then can you begin to help them reveal their specific needs to weather their storm of addiction and come out the other side, stronger, happier and more apt to have the ability to bond. - Denise S.
**NEONATAL ABSTINENCE SYNDROME (NAS)**

### Scoring Practices

An opioid-exposed newborn requires a minimum of 4 days (96 hours) in the hospital for NAS scoring. If the infant requires medication to manage NAS, the exact observation time will depend on the infant’s expression of NAS and response to treatment (Hudak et al., 2019).

Note—All hospitals do not do “monitoring holds” on babies. All caregivers should be trained to do basic monitoring as the baby may start to show withdrawal symptoms days after hospital discharge.

(Modified Finnigan or Eat/Sleep/Console Assessment Every 3-4 hours)

- Assess infant after feedings
- Daily weight gain and ability to successfully feed are an important part of the assessment
- Scoring tools are only part of the assessment
- Important to observe the ability of infant to achieve quiet alert state for social interaction

### Treatment for NAS

**Non-pharmacologic interventions** as long as scores reflect MILD SYMPTOMS;

- Kangaroo Care
- Swaddle
- Low stimulation
- Pacifier
- Low light
- Scheduled Feedings
- Music Therapy
- Infant Massage

**Pharmacologic interventions** may be considered with morphine or methadone based on symptom severity and baby’s response to interventions. If symptoms do not respond to opiate and non-pharmacologic interventions sometimes clonidine or phenobarbital are added to baby’s treatment plan to address symptoms. (Done in NICU SETTING)

***If morphine or methadone is added to interventions, a gradual wean is required, and progressed as tolerated. Discharge is generally done when baby is medically stable and 48 hours after final dose of morphine or 72 hours after final dose of methadone AND NAS scores stay within mild symptom range

Scan this QR code to learn more about practices in Ohio at Ohio Perinatal Quality Collaborative:

NAS Project

MOMS+
GOALS OF INTERVENTIONS FOR NEONATAL ABSTINENCE SYNDROME (NAS)

- Support optimal nutrition and development
- Promote positive caregiver-infant interaction and bonding
- Alleviate signs and symptoms of withdrawal
- Provide child specific parental education and support

From the Experts:

Research and practice support that having a 1:1 nurturing, consistent, and familiar caregiver at the baby’s bedside, who can offer the non-pharmacologic care, decreases the need for pharmacologic intervention and results in a shorter length of stay in the NICU if the baby experiences significant withdrawal.

Equally important is that this bedside, hands-on experience, supports the caregiver’s acquisition of the skills and knowledge that will support continuity of care for the baby, and increases caregiver’s confidence in their ability to meet this baby’s needs when they transition home.

It is crucial that if the baby will be placed in foster care, that the foster parents have the opportunity to be present as soon as possible in the NICU to support the baby and get hands-on experience in this environment where they have nurses as a teaching/coaching resource.

Ideally, the consistent familiar caregiver is the biological mother, as she has the innate ability to soothe her baby. Empowering mom to be present as the primary support for her baby, even if baby is not discharged to her care, has many short and long-term benefits for both her and baby including:

- Validates crucial role as a positive change agent in her baby’s recovery
- Supports attachment and bonding
- Breaks through denial surrounding impact of the prenatal exposures
- Bolsters her commitment to her own recovery

If mom is unable to be present due to barriers such as transportation, other children, or active addiction, baby’s care team should strive to help her address those barriers utilizing a trauma focused approach.
NEONATAL ABSTINENCE SYNDROME (NAS):

DISCHARGE READINESS

- 48 hrs for morphine
- 72 hrs for methadone
- 0.5-1 oz/day is goal for first 3 months
- NAS Scores in mild range
- Weaned off opiate medication
- Able to feed and grow
- Early and Frequent follow up
- Safe Plan of Care for Infant (CARA)
- Caregiver shows ability to calm and feed infant
- Safe Home Environment
- Anticipatory Guidance

Pediatrician knowledgeable about drug affects, early intervention services, and targeted parenting education

Scan this QR Code to learn more
Safe Plan of Care for Infant—CARA SACWIS TOOLKIT

https://jfskb.com/sacwis/index.php/cpspolicy/178-cara-community-kit/861-

Scan this QR Code to learn more
Infant Discharge Planning—SAMHSA—pg.98

POTENTIAL EFFECTS AND INTERVENTIONS:

ADDITIONAL KEY POINTS

Degree of Withdrawal

Just because an opiate exposed infant does not demonstrate symptoms significant enough to be transferred to the NICU for pharmacologic treatment does not preclude them from experiencing some degree of withdrawal symptoms in those early days and months.

Experienced Pediatrician

When baby continues to struggle once home with feeding, irritability, or sleep - trying to determine the root cause and address it is crucial. Ensure that the baby’s care team includes a pediatrician that is experienced with this population and who will not minimize caregiver observations and concerns.

Caregiver Support

Some babies may cry as much as 10-15 hours/day, some babies may only sleep for 15-45 minute intervals – sleep deprivation and inconsolable crying undermines caregiver self-confidence, bonding, and placement stability. Have empathy for caregiver stress and seek to help them build supports.

CREATIVE SUPPORT EXAMPLE— Friends of a retired single foster mom with a high needs baby who cried a lot and slept little created a “cuddle circle”. A few friends would come to her home every afternoon for four hours , bring dinner, and take turns cuddling the baby, giving foster mom time to sleep. This tangible support preserved the placement helping the caregiver hang in through four difficult months—and was the high‐point of the cuddle group ladies week and the baby was enriched.

Mentors and Coaches

Mentors and coaches are invaluable for all new caregivers, whether it is a foster, adoptive, kinship or primary parent placement. Most caregivers “do not know what they do not know” until baby is in their care. Subsequently, they are often on their own struggling to problem solve in the moment. Seek experienced caregivers who are open to becoming a mentoring resource.

SUMMIT COUNTY - Hailey’s Hope: provides a welcome baby bag to foster parents who have a drug exposed infant placed with them. Also has a lending library of swings, slings, strollers to support caregivers. Families given baby step guide and open invite to reach out for mentoring support.

Visit Safety

Parents that are “high” during visits is dangerous for the baby. Dermal exposure to fentanyl or methamphetamine residue on clothing or skin can create significant risk for baby. Even smelling strongly of cigarettes can trigger respiratory concerns in babies with prenatal exposure. Education on safety for baby is crucial including: safe sleep, use of infant car seat, and therapeutic feeding and handling techniques.
Caring for these babies is a "marathon not a sprint".
Reaching out for help is a sign of maturity not weakness.
Remember to utilize your supports proactively!

Adopt a “Worst Case Scenario” mindset to help prepare for baby. It is impossible, early on, to predict if baby will grow into or out of concerns. Sub-acute symptoms may persist for 6 months or more—tremors, feeding issues, gastric irritability, poor sleep pattern, high/low muscle tone, irritability, high pitched cry, mottling.

Start with informal supports and extend to identifying a knowledgeable, accessible pediatrician. Also, look for a mentor or coach that has “lived experience” successfully caring for a drug affected infant.

When deciding to say yes to placement be mindful that early days with these babies can be very demanding physically and emotionally.

Supporting Best Outcomes and Placement Stability
Realistic Expectations
Caring for these babies is a “marathon not a sprint”.
Reaching out for help is a sign of maturity not weakness.
Remember to utilize your supports proactively!

Identify current daily obligations & demands
Build and Utilize a Support System
Learn About the Disease of Addiction
Continue to Build Empathy

Keep in mind all that primary parent(s), especially mom, may be juggling.

To support positive engagement opportunities and healthy boundary setting with baby’s primary parents.

Overcoming shame & judgement to be present for baby,
Daily MAT Dosing
Recovery Groups and/or residential treatment demands
Mental Health/recovery expectations
Perinatal Mood Disorders
Housing, Transportation, and Financial Challenges
Caring for other children with limited support
POTENTIAL EFFECTS OF PRENATAL EXPOSURE AND INTERVENTIONS: THE CHILD WELFARE TEAM

C H I L D  W E L F A R E  W O R K E R S

Create Supportive Environments

♦ Promote bonding and attachment between baby/caregiver, baby/primary family
♦ Support communication between caregiver and primary family as early as possible
♦ Empower caregivers to share their observations and concerns around the baby’s needs/challenges with pediatricians or other care team members—do not minimize their insights
♦ Encourage primary parent’s involvement in hospital and at medical appointments as safety allows
♦ Validate challenges of caring for high needs infant

Assist with Understanding Baby’s Current Care Needs

♦ Focus on supporting skills and knowledge of risks, symptoms, and effective interventions
♦ Model assertive respectful communication with community and healthcare providers to build caregiver advocacy skills
♦ Support caregivers and primary parents in self-assessing learning needs related to providing best care for baby

Encourage Parents Struggling With Addiction and Trauma

♦ Support engagement during post partum period
♦ Encourage them to stay in the moment as much as possible to optimize time with baby
♦ Keep in mind guilt, shame, and low self-esteem may be behind distancing/disengagement behaviors.
♦ Strive to identify and remove barriers to engagement
POTENTIAL EFFECTS OF PRENATAL EXPOSURE AND INTERVENTIONS: THE CHILD WELFARE TEAM

SUPervisors

Provide and allow time for educating staff regarding potential effects of prenatal exposure, assessment, and treatment process. Recognize and reinforce that each baby’s needs are unique, and the expression of those needs are directly influenced by the caregiver’s skill and knowledge.

Build Strong Community Support Teams

Identify pediatricians knowledgeable regarding this population—having this foundational resource supports best care for these high risk babies. Share these resource with families. Other members include high risk infant clinics, early intervention, visiting nurse, and other medical specialists. Building rapport with these providers is key.

Supporting Best Outcomes by Creating Individualized Safe Plans of Care

Facilitate positive connection between caregivers and primary parents as soon as possible. This supports the primary parents ability to feel a part of the process while breaking down stereotypes for primary families and caregivers.

Staff Education

Recognize the multiple risks and challenges of around the clock care of these potentially high needs babies. Take on the notion of - “It takes a village”. Strive to build circles of support around the baby and their caregiver.

Embrace CARA to build Safe Plans of Care

Strengthen Connection Opportunities
POTENTIAL EFFECTS RESOURCES

Advocate Aurora Health

Baby Steps 2014: Caring for Infants with Prenatal Substance Exposure
https://www2.gov.bc.ca/assets/gov/family-and-social-supports/foster-parenting/baby_steps_caring_babies_prenatal_substance_exposure.pdf

Hailey’s Hope
https://www.4haileyhope.org/

Florida Neonatal Abstinence Syndrome (NAS) Tool Kit
https://health.usf.edu/publichealth/chiles/fpqc/nas/~/media/E2C3217B2EB1416AAD0891069DAE5E38.ashx

MOMS Ohio
http://momsohio.org/

NASCEND—The New Paradigm of Care for NAS
https://nascend.com/

ODJFS—CARA Community Toolkit—SACWIS Knowledge Base

Ohio Perinatal Quality Collaborative —MOMS+ Project
https://opqc.net/projects/active-projects/maternal-opiate-medical-supports-plus-moms

Ohio Perinatal Quality Collaborative—NAS Project
https://opqc.net/projects/NAS

Pediatric Interim Care Center
https://www.picc.net/handling.html

SAMHSA—Clinical Guidance for Treating Pregnant and Parenting Women with Opioid Use Disorder and Their Infants (pgs 84-102)

Western Australian Centre for Evidence Based Nursing & Midwifery, January 2007—Neonatal Abstinence Scoring System
https://lkpz.nl/docs/lkpz_pdf_1310485469.pdf