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Guidelines for Identifying Substance-Exposed Newborns

A Publication Of:
The Arizona Statewide Task Force on Preventing Prenatal Exposure to Alcohol and Other Drugs

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Letter from the Chair

September 12, 2016

To: Chairman, Obstetrics Department
Chairman, Pediatric Department
Chairman, Neonatology Department

RE: Statewide Initiative to Identify Substance – Exposed Newborns

There is a growing concern for the care and safety of substance-exposed newborns in Arizona and nationwide. The care and safety of this vulnerable population has a profound effect on the medical community and the child welfare system.

The Arizona Task Force for the Prevention of Prenatal Exposure to Alcohol and Other Drugs, in collaboration with Governor Douglas Ducey's 2016 Task Force on Substance Abuse has reviewed and revised the 2008 Guidelines for Identifying Substance-Exposed Newborns (SEN).

An extensive review of the medical, nursing, substance abuse and mental health literature provided the evidence for revision of this document. The SEN work group (Appendix B) has worked closely with professional organizations and agencies to revise and update the guidelines.

These *Guidelines* support the state law requirement that a health care professional, **who reasonably believes that a newborn infant may be affected by the presence of alcohol or a drug, to immediately report this information,** or cause a report to be made, to the Arizona Department of Child Safety (DCS). For reporting purposes, "newborn infant" means a newborn infant who is under thirty days of age (A.R.S. §13-3620).

These *Guidelines* have been posted for Public Comments, and reviews have been requested from the following organizations: American Academy of Pediatrics-Arizona Chapter, (AzAAP), Arizona Medical Association (ArMA)-Maternal Child Health Committee, Arizona Perinatal Trust, and the American College of Obstetrics and Gynecologists-Arizona Chapter prior to the implementation in early 2017. The *Guidelines* will be disseminated to providers across Arizona with the collaboration of the Arizona Perinatal Trust.

Including these *Guidelines* in your policies and procedures for nursing staff, social services, and medical staff will provide a consistent approach and avoid potential bias in the identification of these newborns.

The attached documents will be maintained and updated on the Arizona Department of Health Services website: www.azdhs.gov.

Any questions related to these *Guidelines* may be directed to Cindy Beckett, PhD, RNC-OB, Chair of the Arizona Task Force for the Prevention of Prenatal Exposure to Alcohol and Other Drugs, via the email address: Cynthia.Beckett@nahealth.com

Sincerely,

Cindy Beckett, PhD, RNC-OB, LCCE, CHRC
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Substance Abuse Task Force member
Neonatal Abstinence Syndrome sub-committee member
Prevention and Intervention sub-committee member

Introduction

Substance use during pregnancy is a complex public health problem often resulting in multiple consequences for a woman and her newborn. Alcohol, cocaine, hallucinogens including marijuana, prescription or nonprescription narcotics/opioids, and certain non-narcotic medications during pregnancy may result in adverse effects on the health and well-being of the newborn, in addition to the woman's health. Accurate and consistent diagnoses of exposed births allow for early intervention services for the newborn and mother. These services are critical in minimizing the acute and long-term effects of prenatal substance exposure. It is also important to provide appropriate preconception health education and screening, counseling, and referrals for women planning pregnancies, and all women of childbearing age, in order to prevent exposed births from ever occurring.

Stakeholders in Arizona came together in 2002 to develop guidelines to assist health care providers in understanding their role in the identification of substance-exposed newborns (SEN), and again in 2008 to revise the guidelines to reflect advances in understanding. The Arizona Department of Health Services (ADHS) conducted a Neonatal Abstinence Syndrome Conference in July 2015 which brought together physicians, hospital systems, health plans and other stakeholders from around the state to discuss the problem of substance exposed newborns as well as next steps for Arizona. One of the key recommendations was to update the Guidelines for Identifying Substance Exposed Newborns and to work with the Arizona Perinatal Trust (APT) to encourage hospitals to have protocols and policies in place. Since the 2008 revision the number of exposed newborns has continued to increase as the state, as well as the rest of the nation, continues to face an opioid epidemic.

When a woman uses substances regularly during pregnancy, the baby may go through withdrawal after birth leading to a condition called neonatal abstinence syndrome (NAS). Research has shown that NAS is primarily associated with the maternal use of opiates (heroin, methadone, hydrocodone or oxycodone). Other non-opiate drugs such as benzodiazepines, SSRI's, barbiturates, alcohol, hallucinogens, cocaine, methamphetamine, marijuana, and ecstasy, can also cause NAS symptoms (See Table 1 for a list of non-narcotic drugs that cause neonatal psychomotor behavior consistent with withdraw). Newborns diagnosed with the presence of substance such as narcotics, cocaine and/or alcohol in certain biological specimens such as urine and meconium, may or may not exhibit withdrawal symptoms. The type and severity of a newborn's withdrawal symptoms depend on the drug(s) used, how long and how often the mother used, and how the mother's body breaks down the drug.

Between 2008 and 2014 the rate of Neonatal Abstinence Syndrome (NAS) has increased by 235%. Additionally, the rate of newborns exposed to narcotics has increase more than 219%. Between 2013 and 2014 the number of

Table 1: Non-narcotic drugs that cause neonatal psychomotor behavior consistent with withdraw. Source: Hudak et al. Neonatal Drug Withdraw. Pediatrics 2012, 129(2):e542

Drug	Signs	Onset of Signs	Duration of Signs*	Ref. No.
Alcohol	Hyperactivity, crying, irritability, poor suck, tremors, seizures; onset of signs at birth, poor sleeping pattern, hyperphagia, diaphoresis	3–12 h	18 mo	14,15
Barbiturates	Irritability, severe tremors, hyperacusis, excessive crying, vasomotor instability, diarrhea, restlessness, increased tone, hyperphagia, vomiting, disturbed sleep; onset first 24 h of life or as late as 10–14 d of age	1–14 d	4-6 mo with prescription	12,13
Caffeine	Jitteriness, vomiting, bradycardia, tachypnea	At birth	1-7 d	161
Chlordiazepoxide	Irritability, tremors; signs may start at 21 d	Days–weeks	9 mo; 11/2 mo with prescription	11
Clomipramine	Hypothermia, cyanosis, tremors; onset 12 h of age		4 d with prescription	162
Diazepam	Hypotonia, poor suck, hypothermia, apnea, hypertonia, hyperreflexia, tremors, vomiting, hyperactivity, tachypnea (mother receiving multiple drug therapy)	Hours–weeks	8 mo; 10–66 d with prescription	10
Ethchlorvynol	Lethargy, jitteriness, hyperphagia, irritability, poor suck, hypotonia (mother receiving multiple drug therapy)		Possibly 10 d with prescription	163
Glutethimide	Increased tone, tremors, opisthotonos, high-pitched cry, hyperactivity, irritability, colic		6 mo	164
Hydroxyzine	Tremors, irritability, hyperactivity, jitteriness, shrill cry, myoclonic jerks, hypotonia, increased respiratory and heart rates, feeding problems, clonic movements (mother receiving multiple drug therapy)		5 wk with prescription	58
Meprobamate	Irritability, tremors, poor sleep patterns, abdominal pain		9 mo; 3 mo with prescription	165
SSRIs	Crying, irritability, tremors, poor suck, feeding difficulty, hypertonia, tachypnea, sleep disturbance, hypoglycemia, seizures	Hours–days	1–4 wk	31–33,35

* Prescription indicates the infant was treated with pharmacologic agents, and the natural course of the signs may have been shortened.

newborns diagnosed with Fetal Alcohol Syndrome (FAS) has increased 67% (Arizona Hospital Discharge Data, 2014). A recent study authored by researcher Dr. Phil May and published in *Pediatrics* in 2014 concluded that the rate of FAS was found to be 6-9 cases per 1,000 children, and the total cases of any form of FASD ranged from 24 to 48 cases per 1,000 or 4% (May, et.al., 2014). Many studies have highlighted a prevalence of substance exposed newborns (SEN) far higher than that captured through diagnostic records. Missed diagnoses remain a serious issue that confounds accurate data collection, hindering trend analysis and evaluation of interventions, and ultimately endangers the health and wellbeing of exposed newborns. Many lacking an initial diagnosis may receive inappropriate care and experience difficulty later accessing services in childhood and adolescence when developmental delays may be evident.

To address this growing epidemic of prenatal exposure to alcohol and other drugs, the Arizona Statewide Task Force on Preventing Prenatal Exposure to Alcohol and Other Drugs, with input from key stakeholders, has revised Arizona's Guidelines for Identifying Substance-Exposed Newborns.
The updated 2016 guidelines:

- Provide best practices resources for combatting a complex and worsening public health issue;
- Improve the ability of health care providers to effectively identify at-risk pregnancies and substance-exposed newborns;

• Standardize recommendations and guidelines for maternal and neonatal medical screening, treatment and management in Arizona; and
• Reaffirm the state's commitment to improving the health and well-being of women and their at-risk newborns.

State and National Data Overview

In addition to the direct toxic effects of the drugs to the newborn, continued substance abuse by the mother increases the risk for child abuse and neglect. Indeed, reports of child abuse and neglect have increased dramatically over the past decade and are correlated with an increase in drug use among primary caregivers. In 2014, 85 infant deaths were categorized as Sudden Unexplained Infant Deaths (SUID) and 75 were categorized as child fatalities due to maltreatment. Tobacco exposure or substance use/misuse has been associated with many of these preventable deaths (Arizona Child Fatality Report, 2015).

Prenatal substance abuse is a condition that crosses all social, racial and ethnic groups. The National Institute on Drug Abuse estimated that 15.8 million women (12.9%) ages 18 or older have used illicit* drugs in the last year (SAMHSA, 2014). According to the Arizona Department of Health Services, in 2014, there were 86,648 births in Arizona. In this same year, the SAMHSA National Survey on Drug Use and Health reported that 5.4% of pregnant women were current illicit drug users and 18% of women reported using alcohol in the first trimester. The Centers for Disease Control (CDC) report that 1 in 10 pregnant women used alcohol and that up to 1 in 20 United States school children may have FASDs (CDC BRFSS, 2011-2013). Smoking during pregnancy was also reported by 3.9% of women giving birth in 2014. The most widely utilized illicit substances were marijuana and non-medical use of prescription drugs. There were a total of 2,373 cases of newborns diagnosed with NAS during 2008-2015; 3,771 cases of newborns diagnosed with narcotics; 592 cases of newborns diagnosed with cocaine; 459 cases of newborns diagnosed with hallucinogens and 205 cases of newborns diagnosed with effects of prenatal exposure to alcohol also referred to as Fetal Alcohol Spectrum Disorder (FASD) during 2008-2015. In total, there were 1,374 Arizona newborns identified during 2015 with presence of a substance exposure (See Table 2 for a complete table of newborns with a diagnostic code at discharge of NAS and other drug exposures in Arizona). Other information about maternal drug use during pregnancy is not reported on the Arizona birth certificates; however it can be obtained from the hospital discharge database by searching for several diagnostic codes which identify exposure of the fetus or newborn to narcotics, hallucinogens, alcohol and cocaine.

Table 2: Number of Newborns with a Diagnostic Code at Discharge of Neonatal Abstinence Syndrome (NAS) and Other Drugs Exposures in Arizona, 2008-2015.

Number of Newborns with NAS and Drug Exposures in Arizona, 2008-2015*

Year	NAS	Narcotics	Cocaine	Hallucinogens	Alcohol	Other Drugs of Addiction	# of Hospital Births
2008	145	234	161	35	22		95,420
2009	154	410	99	51	25		89,115
2010	223	414	79	46	15		84,069
2011	300	424	68	46	30		81,988
2012	304	531	59	47	27		82,905
2013	339	646	55	68	20		82,338
2014	438	650	34	93	33		83,427
2015	470	462	37	73	33	299	85,514**
Total	2,373	3,771	592	459	205	299	684,776

Source: Arizona Department of Health Services, Public Health Vital Statistics, Hospital Discharge Data Base, 2008-2015.
(*2015 NAS Counts include a change in reporting using the ICD10-cm codes)
**Preliminary counts

Key Data to Inform Practice

- U.S. - NAS increased to 3.39 per 1,000 hospital births from 1.20 per 1,000 hospital births in 2000 (*JAMA,* 2012)
- U.S. - Drug overdose death rates increased over five-fold between 1980 and 2008 making drug overdose the leading cause of injury deaths over car crashes (NCHS Data Brief, no 81. National Center for Health Statistics; 2011)
- Arizona - NAS has increased by 235% from 2008 to 2014 and 27% from 2013-2014; The rate of Arizona NAS was 5.25 per 1,000 hospital births in 2014 (ADHS, Hospital Discharge Database 2014)
- Arizona - The number of newborns diagnosed with Fetal Alcohol Spectrum Disorders (FASD) increased 67% from 2013-2014 (ADHS, Hospital Discharge Database 2014)
- Arizona - The rate of newborns exposed to narcotics has increased more than 218% since 2008 (ADHS, Hospital Discharge Database 2014)
- Arizona - White non-Hispanics made up 68% of the total number of NAS cases (2008-2014) (ADHS, Hospital Discharge Database 2014)
- AHCCCS was the payer in 76% of the newborns exposed to narcotics (2008-2014) (ADHS, Hospital Discharge Database 2014)
- U.S. - Medicaid covers the majority of mothers with opiate exposure during pregnancy (60%) and infants diagnosed with NAS (78%) (*JAMA*, 2013)

Substance use by pregnant mothers can lead to long-term and even fatal effects for the child including: low birth weight, birth defects, small head size, premature birth, Sudden Unexpected Infant Death (SUID), developmental delays, and problems with learning,

memory, and emotional control. In addition to individual negative outcomes, societal impact related to prenatal substance abuse profoundly affects many facets of our communities. Successful identification and intervention may result in substantial cost savings in health care, foster care, special education and incarceration.

Health care professionals have an important role in identifying substance-exposed newborns. These guidelines have been developed to assist in:

- Improving effective identification of substance-exposed newborns;
- Implementation of educational programs to assure consistent assessment and scoring using the NAS scoring tool;
- Standardizing guidelines for maternal and neonatal screening in Arizona;
- Improving the health and well-being for women and their at-risk newborns; and
- Creating standardized evidence-based protocols for treating infants with NAS scores requiring pharmacological interventions.

In addition, health professionals are bound by **Arizona Revised Statutes § 13-3620 which requires a health care professional, who reasonably believes that a newborn infant may be affected by the presence of alcohol or a drug, to immediately report this information, or cause a report to be made, to Child Protective Services**. For reporting purposes, "newborn infant" means a newborn infant who is under thirty days of age.

Overview of the Arizona State Task Force on Preventing Prenatal Exposure to Alcohol and Other Drugs

The ***Arizona Statewide Task Force on Preventing Prenatal Exposure to Alcohol and Other Drugs*** is an entity comprised of professionals representing various sectors of the community, focused on ensuring the health and wellness of women and children. Its purpose is to focus statewide attention and resources on the issue of prenatal exposure to alcohol and other drugs in an effort to improve health outcomes for Arizona's children.

Task Force Vision

To live in a time when all Arizonans will know and understand the emotional, physical and social costs of prenatal exposure to Alcohol and Other Drugs; where all babies have the chance to be born free of any substance abuse; where women, children and families live safely and have ready access to necessary resources; and where there is ample assistance for children already born exposed, and their caregivers, to ensure the best possible outcomes.

Task Force Mission

To improve the health and wellness of Arizona families by creating and implementing data driven, evidence-informed solutions to reduce prenatal exposure to alcohol and others drugs through a coordinated, effective and viable public-private state wide partnership that is both accountable and transparent.

2015-2020 Goals

***Goal 1**: Work with providers and stakeholders to appropriately identify substance exposed newborns in an effort to obtain a more accurate baseline of the incidence of Substance Exposed Newborns (SEN)*

***Goal 2**: Raise awareness and understanding of the risks and effects of prenatal exposure to alcohol and other drugs for families and communities*

***Goal 3**: Create optimal opportunity for engagement in effective interventions and services for all women of reproductive age in Arizona*

***Goal 4**: Promote successful outcomes for those individuals affected by SEN in Arizona*

***Goal 5**: Strengthen the Task Force and elevate its standing so it can better carry out its mission and achieve its goals*

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Rising Opioid Abuse Trends

The Substance Abuse and Mental Health Services Administration (SAMHSA) reports that prescription drug abuse is the fastest growing drug problem in the United States. Prescription drugs are essential to relieving acute or chronic pain for many individuals. However, the misuse, abuse, addiction and overdoses of prescription drugs have increased to become a serious and devastating public health problem.

The rising opioid abuse trends can be partially attributed to the increasing number of prescriptions written in recent years. According to data from Arizona's Controlled Substances Prescription Monitoring Program (CSPMP), there were 9.6 million Class II-IV prescriptions written and 575 million pills dispensed in Arizona in 2013. This equates to 87.4 Schedule II-IV controlled substance pills for every person, adults and children, living in Arizona. Prescription pain relievers accounted for 51.2% of these prescriptions, with Hydrocodone and Oxycodone accounting for the majority (~80.9%) of all pain relievers. According to experts, recent prescribing practices in Arizona places our state as the 5th highest opioid prescribing state in the country.

Rates of adult prescription drug misuse in Arizona are alarmingly high, with 50% of adults reporting misuse in the past 12 months and 13% of adults reporting misuse in the past 30 days. Although rates of adult prescription drug misuse traverse all age categories and regions in Arizona, significantly higher rates were reported among individuals living in the Southeastern region of the state and for individuals 45 years and older. The majority of the misuse involved pain relievers (47%) (ADHS Injury Prevention, 2016).

In 2011, the Arizona Criminal Justice Commission and the Governor's Office for Children, Youth and Families, along with many state and local partners including the Arizona Department of Health Services, launched a multi-systemic effort to reduce prescription drug misuse and abuse in Arizona. The Arizona Prescription Drug Misuse and Abuse Initiative team formulated a set of data-and-research-driven strategies to be used in a multi-systemic, multi-agency **collaborative approach to reduce prescription drug misuse in Arizona**. Resources developed include:

- The Arizona Opioid Prescribing Guidelines http://azdhs.gov/documents/audiences/clinicians/clinical-guidelines-recommendations/prescribing-guidelines/az-opiod-prescribing-guidelines.pdf
- The Controlled Substance Prescription Monitoring Program (CSPMP)-Healthcare Prescribers Registration and Use: www.pharmacypmp.az.gov
- The Arizona RX Drug Misuse and Abuse Initiative Toolkit http://azcjc.gov/ACJC.Web/Rx/toolkit.asp
- Online Prescribing Course for Arizona DEA prescribers: www.VLH.com/AZPrescribing

Women of Childbearing Age Who Have Addiction Issues

According to the National Institute on Drug Abuse, when it comes to substance use women face special issues that are influenced by biological differences, pregnancy, breastfeeding and culturally defined roles.

The Centers for Disease Control (CDC) estimates that 3.3 million women between ages 15-44 are at risk of exposing a developing fetus to alcohol because they drink, are sexually active and are not using birth control. Even when women are actively trying to get pregnant, three out of four women continue to drink after they have stopped using birth control.

The CDC recommends that young women should avoid alcohol unless using birth control since about half of all pregnancies in the United States are unplanned, and even if planned, many women don't know they are pregnant until after 4-6 weeks and they may still have been drinking during those weeks.
The American College of Obstetricians and Gynecologists (ACOG) recommends women abstain completely from alcohol, tobacco and other drugs while pregnant.

A woman who is prescribed opioids and becomes pregnant will need to be managed by her healthcare provider. Opioid abuse during pregnancy includes the use of heroin and the misuse of prescription opioid medications. The current standard of care for pregnant women with opioid dependence is a referral for opioid-assisted therapy with methadone.

Early detection and treatment of an alcohol or drug problems by a health care professional is more effective and less costly than addressing a chronic substance use disorder. Primary prevention during the preconception period is the ideal point to intervene and prevent a substance-exposed pregnancy. ACOG has recommended universal screening of all women of reproductive age by a healthcare provider using an evidenced based screening tool at every healthcare visit as a step towards primary prevention.

Guidelines

Prevention

Neonatal Abstinence Syndrome (NAS) is a growing problem in the United States. Fortunately, NAS is preventable if an expectant mother receives proper care and treatment. Prevention begins with preconception health care and continues as this education geared towards both patients and providers is reinforced throughout a woman's entire pregnancy. The following are ways to enforce prevention:

- Education about drug/alcohol use in pregnancy
- Pregnancy testing prior to prescribing
- Recommend providers to check CSPMP (Controlled Prescription Monitoring Program) prior to distributing and/or prescribing medications
- Any providers taking care of, dispensing, or prescribing medication to women of childbearing age need to council/educate women prior to prescribing
- Engage member's health plan case management program as appropriate

Identification & Screening – Maternal

Prenatal screening begins initially with the maternal interview. The following screening criteria may identify substance use/abuse, which can impact the health of the mother and the newborn. Two basic methods are used to identify drug users: self-report or laboratory testing of biological specimens. Screening is recommended to include self-reporting by the mother, followed by laboratory testing if any of the following occur:

- History of previous or current substance use by mother and/or significant others living in the home, or history of a previous delivery of a substance-exposed newborn.
- Current CPS involvement; suspected or reported domestic violence
- Non-compliance with prenatal care (late entry to care, multiple missed appointments, or no prenatal care).
- Evidence of unexplained poor weight gain during the pregnancy.
- Medical non-compliance.
- Medical symptoms of withdrawal in the mother.
- Physical or behavioral signs of substance use/abuse.
- Maternal medical history of Hepatitis B or C, HIV infection, or two or more sexually transmitted diseases.
- Previous or current history of placental abruption or unexplained vaginal bleeding.
- Cardiovascular accident of the mother.
- Unexplained intrauterine growth restriction
- Pre-term labor may be seen in association with substance use or abuse as reported in the literature. It may be considered prudent to screen, if any of the above factors exist in association with pre-term labor.

If positive for one or more of the above screening criteria, recommend:

- **Testing of the mother*; and**
- **A referral for further assessment, including possible treatment services.**

<u>*Toxicology Consideration</u>

Maternal urine toxicology will generally identify only common drugs of abuse (e.g. cocaine, marijuana, opiates, barbiturates, benzodiazepines, amphetamines, and PCP) that have been used within the last 24 to 48 hours and will be negative if drugs were used earlier in the pregnancy. Alcohol use is best identified by blood or saliva testing and some drugs such as volatile inhalants can only be identified by special testing. You may wish to consult with a toxicologist to determine the best way to screen for drugs that are not included in routine urine drug screening.

To reduce the incidence of substance exposed newborns, screen women at risk of addiction. This document provides samples of interview screening tools for drugs and alcohol (See Appendix C).

<u>Information About Other Screening Tools Can Be Found</u>:

- <u>http://www.integration.samhsa.gov/clinical-practice/screening-tools#drugs</u>

- DAST- a 28 item self-report scale that will take at least eight minutes to complete *www.uspreventiveservicestaskforce.org*
- DAST 10- a revised, 10 item self-report tool that (Skinner, H. A. (1982). The Drug Abuse Screening Test. Addictive Behavior, 7 (4),363–371.) *https://www.drugabuse.gov/sites/.../***DAST**-10.pdf
- SBIRT (Screening, Brief Intervention, and Referral to Treatment)- "a comprehensive, integrated, public health approach to the delivery of early intervention and treatment services for persons with substance use disorders, as well as those who are at risk of developing these disorders for use in community settings". AZ SBIRT is sponsored by the AZ Governor's Office and AZ Department of Health Services under contract with NARBHA and funded by SAMHSA.

Identification & Screening – Neonates

Although no single approach can accurately determine the presence or amount of drug used by the mother during pregnancy, it is more likely that fetal exposure will be identified if a biological specimen is collected along with a structured maternal interview.

Medical care providers may choose to use a standardized and validated scoring tool that is accurate in assessing infants for signs of NAS. The most widely recommended tool to examine infants for signs of NAS in the hospital setting is the Finnegan Scoring Tool (See Appendix D). Other NAS scoring tools include the Lipsit, Neonatal Withdrawal Inventory and the Neonatal Narcotic Withdrawal Index. The nursing staff provide the scoring assessment. It is important that the scoring frequency be consistent and occurs initially after transition which is 2-4 hours after birth, then score again after 3-4 hours. Treatment begins when score is 8 or greater on the tool. If no treatment is required by 72 hours scoring can be discontinued and baby discharged after 24 hours.

Identification of substance-exposed newborns is determined primarily by clinical indicators in the prenatal period including maternal and newborn presentation, history of substance use/abuse, medical history, and/or toxicology results. Newborn toxicology screening should be performed if the results will influence management of medical care for the mother and newborn, including treatment options, and/or to confirm the maternal pattern of drug use.

The three most commonly used specimens to establish drug exposure during the prenatal and perinatal period are urine, meconium, and hair. However, none is accepted as a “gold standard.”

Newborn toxicology screening may:

- Confirm presence of substance of use and abuse.
- Determine use of multiple substances, which were not identified during the maternal interview.
- Identify the newborn that is at risk for withdrawal.
- Identify substances or drugs that may be contraindicated in breastfeeding.

- Identify newborns that may need protective services, and/or developmental follow-up.
- Identify the mother who may need treatment services.

The recommended screening criteria for the newborn includes:

- Signs of neonatal abstinence syndrome which may include marked irritability, high-pitched cry, feeding disorders, excessive sucking, vomiting, diarrhea, rhinorrhea, or diaphoresis.
- Unexplained apnea in newborn.
- Microcephaly (when accompanied by additional symptoms).
- Birth weight <5th percentile for gestational age (unexplained intrauterine growth restriction, or newborns who are small for gestational age).
- Cerebral vascular accident in the newborn (not otherwise considered at-risk).
- Other vascular accident in the newborn.
- Necrotizing enterocolitis (NEC) in the full-term newborn (or newborn not otherwise considered at-risk for NEC).

If positive for one of more of the above screening criteria, recommend:

- **Testing of the newborn* and a social service referral to identify potential accompanying diagnosis; and**
- **Consider testing of the mother.**

<u>*Toxicology Consideration</u>

Urine Testing: The first urine contains the highest concentration of drug or metabolites. If this urine sample is missed, a confirmatory test is less likely, even in the presence of intrauterine drug exposure. A negative urine toxicology result is common even in the presence of substance use or abuse.

Limitations of newborn urine testing include:

- The first urine sample may be easy to miss.
- Bag urine collections for newborns are difficult to collect.
- Positive drug threshold values have not been scientifically determined.
- The threshold values for the newborn have been arbitrary set at the adult reference range.
- False negative urine toxicology may be the result of using a higher adult reference range in the newborn population.
- Threshold levels of drug metabolites generally can be detected in urine only for several days.

Meconium Testing: Meconium testing is the most reliable and comprehensive toxicology screen in the newborn. Meconium formation starts between 16 to 20 weeks gestation, and continues until birth, and thus it is hypothesized that meconium will reflect exposure during the second and third trimester of pregnancy. Newborn meconium testing is noninvasive and will identify most substance used by the mother after 20 weeks, such as: cocaine, marijuana, opiates, barbiturates, benzodiazepines,

amphetamines, and PCP. Best results are obtained by collecting multiple meconium specimens. In addition, meconium is easier to collect.

Fatty acid ethyl esters (FAEEs) have been identified as an important biomarker of alcohol consumption. They are formed by esterification of ethanol with free fatty acids. High levels of FAEEs in meconium are a “direct biomarker reflective of true fetal exposure to ethanol in-utero”. Supplemental meconium testing can identify FAEEs, by gas chromatography/mass spectrometry (GC/MS) analysis and provides a 99% level of sensitivity in identifying FAEEs. If the level is in the 3rd or 4th quartile, this is indicative of heavy alcohol exposure, which would identify the infant at higher risk for effects from alcohol exposure.

However, use of meconium to determine the timing or extent of exposure during pregnancy is controversial because of a lack of studies regarding the effects of the timing and quantity of the postpartum specimen collection as well as the effects of urine or transitional stool contamination of the meconium samples for several days.

Other Forms of Testing: Hair is easy to collect, although some people decline this sampling method because of cosmetic concerns and societal taboos. Drugs become trapped within the hair and, thus, can reflect drug use over a long period of time. Unfortunately, using hair to determine timing and quantity of exposure also is controversial. In addition, environmental contamination, natural hair colors and textures, cosmetic hair processing, and volume of the hair sample available all affect the rational interpretation of the results. Other biological specimens have been studied for use in the detection of in utero drug exposure but are not commonly used in the clinical setting. These include such specimens as cord blood, human milk, amniotic fluid, and umbilical cord tissue.

Further recommendations if the above screening criteria are positive:

- Consider maternal and newborn testing for identification of related infections (Syphilis, Hepatitis B or C, HIV).
- If maternal or newborn toxicology is positive for opiates, watch for onset of abstinence syndrome in the newborn.
- Counsel mother that breastfeeding is contraindicated in the presence of a positive history of cocaine, heroin, methamphetamine, PCP, or marijuana use.
- If the medical provider reasonably believes that a newborn infant may be affected by the presence of alcohol or a drug, (per A.R.S. § 13-3620) immediately report this information, or cause a report to be made, to Arizona Department of Child Safety (DCS) at 1-888-767-2445 (1-888-SOS-CHILD).
- Consider consultation with DCS prior to the newborn’s discharge.
- Consider Home Health nursing visit(s).
- The Primary Care Provider should notify DCS if there is poor follow-up with recommended medical care, or if the newborn’s medical needs are being neglected.

Treatment & Management – Maternal

Drugs of abuse alter the brains structure and function causing changes that last long after drug use has ceased. This can explain why drug users are at risk of relapse even after long periods of abstinence.

All treatment and management of pregnant women should follow evidence based practice. Treatment needs to be readily available, but does not need to be voluntary to be successful - (individuals who enter treatment under legal pressure have outcomes as favorable as those who enter treatment voluntarily). Effective treatment addresses the entire individual and not just her drug use, and incorporates not only medical management but other services as appropriate.

- Refer women to appropriate gender-specific obstetric, addiction, and behavioral health treatment services.
- Appropriate counseling services may include: psychotherapy, family therapy, parenting instruction, vocational rehabilitation, social services, and legal services.
- Provide women with access to psychiatry consultation for assessment and treatment options for co-occurring disorders.
- Coordination of care among providers, treatment services, and health plans.
- Medically assisted opioid withdrawal ("detoxification") **IS NOT** recommended in pregnancy and is associated with high maternal relapse rates.
- Opioid agonist treatment (OAT) remains the standard of care for treating opioid use disorder in pregnancy.
    - OAT has been shown to reduce illicit drug use, increase adherence to prenatal care, improve maternal nutrition, improve neonate birth weight, and reduce the chance of infection exposure secondary to Intravenous Drug Use (IVDU), (Saia, et. Al, 2016). Methadone is the gold standard, but there is supporting evidence of buprenorphine being an effective therapeutic option as well.
- Develop enhanced postpartum care with close follow up (within 2 weeks of delivery) and option for multiple postpartum visits.
- Ongoing monitoring of drug use. Once detoxification (management of acute with drawl symptoms) is achieved, continued drug treatment and support following detoxification to support long term functioning and prevention of future relapse, must be available.
- Breastfeeding with OAT is safe and beneficial for the mother and infant.

Treatment & Management – Neonate

Both medical and nonmedical treatment options exist for infants with NAS.

Neonatal abstinence syndrome (NAS) includes a combination of physiologic and neurobehavioral signs that include such things as sweating, irritability, increased muscle tone and activity, feeding problems, diarrhea, and seizures. Although nonpharmacological care is the initial treatment options, infants with NAS can often require prolonged hospitalization and treatment with medication.

Nonpharmacological care for the infant with NAS includes minimizing light and noise, swaddling, breastfeeding, and providing skin-to-skin contact with the mother. Breastfeeding is not contraindicated unless the mother is infected with HIV or involved in polydrug abuse or street drugs. Mothers may need extra guidance, and can benefit from programs that improve the bond between mother and child. Pharmacological treatment is recommended if the infant does not show signs of improvement after nonpharmacological care. Morphine is the most commonly used drug for the treatment of NAS secondary to opioids. For neonates, therapy is aimed at rapid clinical stabilization of opioid-exposed infants followed by gradual reduction of the medication under careful medical supervision. The average newborn will recover from NAS in 5 to 30 days with these treatments. The best practice is to have a consistent protocol in place.

Best practice protocols from the research evidence provide clinical highlights in managing NAS newborns.

- Each nursery caring for NAS newborns should develop a protocol that defines indications and procedures for screening for maternal substance abuse.
- Maternal screening for substance abuse should incorporate multiple methods, including maternal history, maternal urine testing, and testing of newborn urine and/or meconium specimens.
- Drug withdrawal should be considered in differential diagnosis in newborns who develop compatible signs.
- Nonpharmacological support measures should be part of the initial approach to therapy and should include: measures to minimize environmental stimuli, adequate rest and sleep, and sufficient caloric intake to promote weight gain.
- Use of a published NAS scoring tool to assess signs of withdrawal. Infants with confirmed exposure, but who are unaffected or demonstrating minimal signs of withdrawal DO NOT require pharmacologic therapy. Use caution prior to instituting pharmacologic therapies. These will increase length of stay and interfere with maternal-infant bonding.
- Even using published NAS scoring tools, there are unknown optimal thresholds for pharmacologic therapies.
- If not contraindicated, encourage breastfeeding and the provision for expressed human milk.
- Pharmacologic therapy for withdrawal-associated seizures is indicated, but also evaluate for other causes of neonatal seizures.
- Relative indicators for NAS treatment are vomiting, diarrhea, or both in association with dehydration and poor weight gain in the absence of other diagnoses.
- Limited evidence from controlled trials of NAS support the use of oral morphine and methadone with pharmacologic treatment is indicated.
- Severity of withdrawal signs including seizures had not been proven to be associated with differences in long-term outcomes of SEN newborns.
- Neonates with a known antenatal exposure to opioids and benzodiazepines should be observed for 4 to 7 days. Early follow-up after discharge is indicated for further assessment for the risks of late withdrawal.

- Neonates who have been treated in NICUs for extended durations can be converted to equivalent regimens of oral methadone and lorazepam. The medications can be reduced by 10% to 20% of the initial dose every 1 to 2 days on the basis of clinical response and serial assessments using an NAS scoring tool (Hudak & Tan, 2016).

In order for the neonate to receive appropriate services it is recommended that there be

- Appropriate documentation of prenatal exposure.
- Positive drug screen documentation.
- Life-long follow up for congenital, behavioral, and developmental abnormalities.

Long-term Follow-up – Maternal

Women who enter into treatment or are in treatment programs for opioid addiction will in all likelihood need to continue in their treatment programs in order to successfully strive for, achieve, and maintain productive functioning in the family workplace and society.

Treatment programs have to be available for long term follow up and support, and need to specific to the needs of the childbearing woman and her children. Programs like the Substance Exposed Newborn Safe Environment Program (SENSE) in Arizona can provide resources and support to the mother, newborn and family after the neonate is discharge from NAS treatment.

For women to be successful in managing their own drug or alcohol problems, they need to have integrated services that will address their physical needs, emotional/mental health needs, and personal/family needs for safety, shelter, food, clothing, and transportation. By providing case management and social supports she will be able to focus on treatment and recovery.

Long-term Follow-up – Babies and Children

Little is known about the long-term effects of in-utero exposure on the newborns, however, it is known that substance use during pregnancy has long-term effects that manifest long after the newborn period. Early in pregnancy, fetal malformations may occur while, later in pregnancy, it is the developing fetal brain that is more vulnerable to injury. The effects of fetal substance exposure may include stunted growth or more subtle findings like alterations in neurobehavioral functions. Alcohol is the most-often studied drug of abuse and can cause several fetal problems including restricted fetal growth, congenital anomalies, behavior problems, poor memory and intellectual disabilities. Prenatal nicotine exposure has been associated with brain development issues, cognition, language, achievement, and long-term behavior.

Infants with NAS are more likely to be admitted to the NICU and to be hospitalized longer than infants without NAS. Additionally, when there are exposures to other substances in supplement to opioids, there is evidence that the risk of antenatal complications is higher. In mothers and infants enrolled in the Tennessee Medicaid program, antenatal cumulative prescription opioid exposure, opioid type, tobacco use,

and selective serotonin reuptake inhibitor (SSRI) use increased the risk of NAS (Patrick, et.al., 2015).

The consequences for children who were prenatally exposed to drugs go beyond the immediate neonatal period. A study by Uebel et. al. (2015) in PEDIATRICS found that children with NAS were more than twice as likely to require hospitalization, to die in hospital, and be admitted for maltreatment, visual, mental, and behavioral problems. According to the study, this increase continues to adolescence, and emphasizes the critical need for continued support for children after resolution of NAS.

Physicians should maintain documentation of substance use during pregnancy and be vigilant in following the child for potential long term physical and cognitive consequences. Even after accounting for prematurity, it is likely that children with NAS will be hospitalized again throughout childhood for maltreatment, trauma, and mental and behavioral disorders. This pattern can continue into adolescence and highlights the critical need for continued support of this vulnerable group after resolution of NAS.

For a summary of effects of prenatal drug exposure of the fetal growth, abnormalities, withdraw, neurobehavioral, and growth refer to Table 3.

TABLE 3
Summary of Effects of Prenatal Drug Exposure

Short-term effects/ birth outcomes	Nicotine	Alcohol	Marijuana	Opiates	Cocaine	Methamphetamine
Fetal growth	Effect	Strong effect	No effect	Effect	Effect	Effect
Anomalies	No consensus on effect	Strong effect	No effect	No effect	No effect	No effect
Withdrawal	No effect	No effect	No effect	Strong effect	No effect	*
Neurobehavioral	Effect	Effect	Effect	Effect	Effect	Effect
Long-term effects						
Growth	No consensus on effect	Strong effect	No effect	No effect	No consensus on effect	*
Behavior	Effect	Strong effect	Effect	Effect	Effect	*
Cognition	Effect	Strong effect	Effect	No consensus on effect	Effect	*

Behnke, Marylou & Smith, Vincent C., (Committee on Substance Abuse, Committee of Fetus and Newborn), March 2013, Prenatal Substance Abuse: Short- and Long-term Effects on the Exposed Fetus, from the American Academy of Pediatrics Technical Report, *Pediatrics*, vol. 131:3.

Ethical considerations

The subject of testing for drugs of abuse, particularly testing for those that are illegal, presents ethical dilemmas for health professionals. On the one hand, the screening for the detection of substances of abuse holds the promise of benefit to the mother with addiction problems that may be remedied by treatment. On the other, the detection of illegal substances may lead to the discovery of information that may require reporting to authorities. Reporting of detected illegal substances in the mother may lead to criminal prosecution and incarceration as a form of punishment. Similarly, detection in the infant may lead to mandated reporting to child protection service agencies and lead to custodial litigation, prosecution, or other disruptions to the mother and infant relationship.

Punitive approaches and incarceration have not been demonstrated to be beneficial in improving health for mothers and infants. Foster placement of children and mandated entry to complex child welfare systems with limited resources and capabilities may also lead to sub-optimal outcomes for both mother and infant. This may be especially true in our own State of Arizona, where many of our child protective organizations and agencies are undergoing dynamic change and development to improve the delivery of services for children. Hence, as is the case with all decisions in medicine, practitioners are often faced with dichotomous choices, each carrying broad implications that must be carefully weighed before potentially causing harm to mothers and infants under their care.

Although there may be punitive consequences of reporting the detection of illegal substances, there may be benefits as well. Testing may be beneficial in providing clinical information and identifying the need for services. Various programs across the state can help the mother receive treatment and maintain their sobriety while keeping their children in the home. The SENSE (Substance Exposed Newborn Environment) program provides services for families referred by the Department of Child Safety (DCS) after the birth of a substance exposed infant. The program develops and implements a coordinated Family Service Plan with the family and with staff from Intensive In-Home services, Arizona Families FIRST, Healthy Families, and DCS case management. This program aims to keep the infant in the home while the parent works with service providers to learn new skills and works to maintain their sobriety. The SENSE program is currently only offered in Maricopa, Mohave, Yuma, and Pima counties. With the increasing number of NAS babies in Arizona it has been recommended that this program be expanded to meet this growing need. Other programs that offer home visiting services, such as Arizona Health Start Program, are also beneficial to these families. Strong Families AZ is a network of free home visiting programs that helps families raise healthy children ready to succeed in school and in life. Many of these services offer treatment that incorporate evidence based programs that have shown effective implementation of services for children and families involved with the child welfare system.

Health professionals, when entering into a relationship with a patient, are bound by duty to act in their best interest. Hence, the decision to obtain information through the use of body fluids or tissues should be carefully weighed with an anticipated expectation of benefit for infant and mother. As with any other medical intervention, drug, or treatment, the provider should weigh the anticipated benefits carefully against the potential risks. For a health professional to do otherwise is unethical.

Another dilemma involves the patient's right to privacy. Recent Supreme Court actions suggest that collection of health information without the express consent of the patient, such as that obtained during urine drug screening for other than directly medical indications represents unreasonable search and seizure. Thus, health professions organizations, including the American Academy of Pediatrics, the American College of Obstetricians and Gynecologists, and the Department of Health and Human Services generally recommend that drug screening for substances of abuse be obtained on mother and infant only with the consent of the mother, unless the medical situation demands otherwise.

These considerations demand care and thoughtfulness in the decision by health professionals or institutions to implement procedures that involve the use of drug screening.

In an effort to maintain the interests of the pregnant woman and the newborn foremost in the delivery of their care, the following guiding principles are suggested:

- Health professionals should be knowledgeable about state and local laws regarding mandatory reporting of illegal drug detection in pregnant women and infants.
- Health professionals should be knowledgeable regarding the resources and facilities available for treatment and management of substance abuse in their communities.
- Health providers should remain cognizant of the duty they assume when engaged in the delivery of care to their patients. This duty requires their actions to be performed in the best interest of the patient.
- Medical decision-making requires an assessment of risk and benefit to mother and newborn. The potential risk and adverse consequences of screening and identification of substance–exposed newborns should be weighed against the potential benefits in a manner no different than as applied to other medical interventions.
- Health providers should be aware of the legal implications of their actions in the context of recent court decisions that uphold the rights of mothers against unlawful search and seizure.
- In keeping with recommendations by health professions organizations, health providers should obtain informed consent from patients (or the mother of an infant) before chemical drug screening procedures except where this is not possible for medical reasons.

Disclaimer These guidelines are not an exclusive course of management. Variations that incorporate individual circumstances or institutional preferences may be appropriate.

Referral list

Regional Behavioral Health Authorities

Maricopa County
Mercy Maricopa Integrated Care
500 West Thomas Road
Phoenix, AZ 85013
Customer Service Number: **1-800-564-5462, 602-586-1841**

Apache, Coconino, Gila, Mohave, Navajo & Yavapai Counties
Health Choice Integrated Care
1300 South Yale Street
Flagstaff, AZ 86001

410 North 44th Street, Suite 900
Phoenix, AZ 85008
Customer Service Number: **1-800-640-2123**

Cochise, Graham, Greenlee, La Paz, Pinal, Santa Cruz and Yuma Counties
Cenpatico Integrated Care
333 E Wetmore Road Suite 500
Tucson, AZ 85705
Customer Service Line: **1-866-495-6738**

Statewide for children in the CRS program
Children's Rehabilitative Services (CRS) Program
United Health Care Customer Service
PO Box 29675
Hot Springs, AR 71903-9802
Customer Service Line: **1-800-348-4508**

Community Information and Referral
Yuma, La Paz, Cochise, Maricopa, Mohave, Coconino, Apache, Navajo, Yavapai, Pinal and Gila counties
1-800-352-3792 or (602) 263-8856

Information and Referral
Pima, Graham, Greenlee, Cochise & Santa Cruz counties
1-800-362-3474 or (520)-881-1794

AHCCCS Substance Abuse Treatment Providers in the Northern 5 Counties:

West Yavapai Behavioral Health Locations:
643 Dameron Drive
Prescott, AZ 86302
928-445-5211 or 1-800-293-7730
555 W Road 3 North
Chino Valley, AZ 86323
928-445-5211 or 1-800-293-7730

3345 N Windsong Drive
Prescott Valley, AZ 86314
928-445-5211 or 1-800-293-7730

Spectrum Healthcare Locations:

8 E Cottonwood Street
Cottonwood, AZ 86326
928-634-2236

452 Finnie Flat Road
Camp Verde, AZ 86323
928-567-4026

2880 Hopi Drive
Sedona, AZ 86336
928-282-4357

Little Colorado Behavioral Health Center Locations:

50 N Hopi Drive, PO Box 699
Springerville, AZ 85938
928-333-2683

470 W Cleveland, PO Box 579
St Johns, AZ 85936
928-337-4301

Specialty Programs for Mothers and Infants

Casa de Amigas (no children)
1648 W Colter #8
Phoenix AZ
(602) 265-9987

Center for Hope (owned and operated by Community Bridges)
554 S. Bellview
Mesa, AZ 85204

Elba House (owned and operated by Ebony House)
6222 S. 13th Street Phoenix AZ
(602) 276-4288

Hacienda Healthcare-Hacienda Children's Hospital
Drug Dependent Newborn Program
610 W. Jerome Ave
Mesa, AZ 85210
(480) 579-2400

Maricopa County Value Options
Native American Connections
609 N 2nd Avenue, #120 Phoenix AZ
(602) 424-2060

New Arizona Family, Inc.
3301 E. Pinchot
Phoenix AZ (602) 553-7300

Pima, Graham, Greenlee, Santa Cruz & Cochise counties
Community Partnership of Southern Arizona (CPSA)

CODAC Behavioral Health Services
333 W Ft. Lowell #219
Tucson, AZ 85705
(520) 327-4505
Fax: (520) 792-0033

Las Amigas
502 Silverbell Road
Tucson, AZ 85745

(520) 882-5898

The Haven
1107 E. Adelaide
Tucson, AZ 85719
(520) 623-4590)

Amity Foundation
Robin Rettmer
Director of Family Services
(520) 749-5980
Fax: (520) 749-5569

Family Supports/Resources

Arizona Department of Health, Office of Women's and Children's Health
150 North 18th Ave.
Suite 320
Phoenix, AZ 85008
Phone: (602) 364-1400 Fax: (602) 364-1495 Toll Free: (602) 542-1200
www.azdhs.gov/phs/owch/

Children's Health Center of St. Joseph's Hospital
350 West Thomas Rd
Phoenix, AZ 85013
Phone: (602) 406-3000 Fax: (602) 406-6135
www.stjosephs-phx.org/index.htm

Emily Anderson Family Learning Center
1919 East Thomas Road
Phoenix, AZ 85016
Phone: (602) 546-1400 Fax: (602) 546-1409
www.phoenixchildrens.com/health-information/the-emily-center/

FAS Arizona
Tucson, AZ
www.fasarizona.com/

March of Dimes
3550 North Central Avenue, Suite 610
Phoenix, AZ 85012
Phone: (602) 266-9933 Fax: (602) 266-9793
www.marchofdimes.com/arizona/arizona.asp

NAFACES- Northern Arizona Fetal Alcohol Spectrum Disorders Center for Education and Support
77 West Forest Ave, Suite 110
Flagstaff, AZ 86001
For more information, contact:
Jean Richmond-Bowman (928)214-3747
Cindy Beckett (928)773-2307

Native American Community Health Center
4520 North Central Avenue
Suite 620

Phoenix, AZ 85012
Phone: (602) 279-5262
www.nativehealthphoenix.org/

Native American Connections Inc., Guiding Star Lodge
3424 E Van Buren
Phoenix, AZ 85008
Phone: (602) 254-5805
www.nativeconnections.org/about/locations/guiding-star

Parker Indian Health Service Hospital
12033 Agency Road
Parker, AZ 85344
Phone: (520) 669-2137

Pilot Parents
2600 North Wyatt Drive
Tucson, AZ 85712
Phone: 520-324-3150
www.pilotparents.org/

Raising Special Kids
5025 East Washington Street
Suite #200
Phoenix, AZ 85034
Phone: (602) 242-4366 Fax: (602) 242-4306 Toll Free: (800) 237-3007
www.raisingspecialkids.org/

Spectrum Disorders (FASD).
FAS Community Resource Center
4710 E. 29th St.
Tucson, AZ 85710
Fax: 520-296-9172
Contact: Teresa Kellerman
www.come-over.to/FASCRC

The Arc of Arizona
PO Box 90714
Phoenix, AZ 85066
Phone: (602) 234-2721
www.arcarizona.org/

Websites

American Academy of Pediatrics
www.aap.org

American College of Nurse-Midwives (ACNM)
www.midwife.org

American Congress of Obstetricians and Gynecologists (ACOG)
www.acog.org

American Society of Addiction Medicine
www.asam.org

Arizona Department of Economic Security
https://des.az.gov

Arizona Department of Health Services
www.azdhs.gov

Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN)
www.awhonn.org

Centers for Disease Control and Prevention (CDC)
www.cdc.gov/fasd

Family Empowerment Network (FEN)
www.pregnancyandalcohol.org

National Institute for Alcohol Abuse and Alcoholism (NIAAA)
www.hiaaa.nih.gov

National Institute on Drug Abuse
www.drugabuse.gov

National Organization on Fetal Alcohol Syndrome (NOFAS)
www.nofas.org

Northern Arizona Fetal Alcohol Spectrum Disorders Center for Education and Support
www.NAFACES.org

Pacific Southwest Technology Transfer Center
www.psattc.org

Physicians and Lawyers for National Drug Policy: A Public Health Partnership
www.plndp.org

Southwest Human Development Birth to Five Helpline
https://www.swhd.org/programs/health-and-development/birth-to-five-helpline/

Substance Abuse and Mental Health Services Administration (SAMHSA)
Substance Abuse Treatment Facility Locator
www.samhsa.gov
www.findtreatment.samhsa.gov

The American College of Obstetrics and Gynecologists Women and Alcohol
www.womenandalcohol.org

The Arc
www.thearc.org

The Governor's Office of Youth, Faith, and Family (treatment locator website)
http://substanceabuse.az.gov/substance-aabuse/arizona-substance-abuse-partnership

The Governor's Office (Program Inventory July 2015)
http://www.azcjc.gov/cdc_site/Resource.aspx

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Appendix A
2008 Committee Members

The Task Force on Preventing Prenatal Exposure to Alcohol and Other Drugs would like to recognize the following original committee members:

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Joanna Kowalik - ***CMO****, DDD of Arizona*

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Appendix C
Screening Tools

To reduce the incidence of substance exposed newborns, screen women at risk of addiction. Samples of interview screening tools for drugs and alcohol include:

CAGE

C Have you ever felt you ought to **cut down** on your drinking or drug use?
A Have people **annoyed** you by criticizing your drinking or drug use?
G Have you ever felt bad or **guilty** about your drinking or drug use?
E **Eye opener**: Have you ever had a drink or drug first thing in the morning to steady your nerves or get rid of a hangover?

The CAGE can identify alcohol or drug problems over the lifetime. Two positive responses are considered a positive test and indicate further assessment is warranted.
National Institute on Alcohol Abuse and Alcoholism

4 P's

This screening device is often used as a way to begin discussion about drug or alcohol use. Any woman who answers yes to one or more questions should be referred for further assessment.

1. Have you ever used drugs or alcohol during this **pregnancy**?
2. Have you had a problem with drugs or alcohol in the **past**?
3. Does your partner have a **problem** with drugs or alcohol?
4. Do you consider one of your **parents** to be an addict or alcoholic?

Ewin H, Born Free Project, Martinez California

T-ACE

A score of 2 or more is considered positive. Affirmative answers to questions A, C, or E = 1 point each. Reporting tolerance to more than two drinks (the T question) = 2 points.

T **Tolerance**: how many drinks does it take to make you feel high?
A Have people **annoyed** you by criticizing your drinking or drug use?
C Have you ever felt you ought to **cut down** on your drinking or drug use?
E **Eye opener**: Have you ever had a drink or drug first thing in the morning to steady your nerves or get rid of a hangover?

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TWEAK is a five-item scale developed originally to screen for risk drinking during pregnancy. It is an acronym for the questions below (Russell, 1994):

T	**Tolerance***	"How many drinks can you hold?"
W	**Worried**	"Have close friends or relatives worried or complained about your drinking in the past year?"
E	**Eye-opener**	"Do you sometimes take a drink in the morning when you first get up?"
A	**Amnesia (stands for blackouts)**	"Has a friend or family member ever told you about things you said or did while you were drinking that you could not remember?"
K	**K/Cut Down**	"Do you sometimes feel the need to cut down on your drinking?"

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Appendix D
Finnegan NAS Scoring Tool

Finnegan Neonatal Abstinence Scoring Tool (FNAST)

Patient ID: Name: Today's Weight: DOB: Date:

Signs & Symptoms	Time	Score	AM	PM	Comments
Central Nervous System Disturbances					
Crying: Excessive High Pitched		2			
Crying: Cont. High Pitched		3			
Sleeps < 1 Hr After Feeding		3			
Sleeps < 2 Hr After Feeding		2			
Sleeps < 3 Hr After Feeding		1			
Hyperactive Moro Reflex		2			
Markedly Hyperactive Moro Reflex		3			
Mild Tremors: Disturbed		1			
Mod-Severe Tremors: Disturbed		2			
Mild Tremors: Undisturbed		3			
Mod-Severe Tremors Undisturbed		4			
Increased Muscle Tone		2			
Excoriation (Specific Area)		1			
Myoclonic Jerk		3			
Generalized Convulsions		5			
Metabolic, Vasomotor And Respiratory Disturbance					
Sweating		1			
Fever < 101 (37.2-38.3c)		1			
Fever > 101 (38.4c)		2			
Frequent Yawning (> 3)		1			
Mottling		1			
Nasal Stuffiness		1			
Sneezing (>3)		1			
Nasal Flaring		2			
Respiratory Rate (> 60/Min)		1			
Respiratory Rate (>60/Min With Retractions		2			
Gastrointestinal Disturbances					
Excessive Sucking		1			
Poor Feeding		2			
Regurgitation		2			
Projectile Vomiting		3			
Loose Stools		2			
Watery Stools		3			
Score					
Total Score					
Average Daily Score					
Inter-Observer Reliability %					
Initials Of Scorer 1					
Initials Of Scorer 2					

Adapted from Finnegan, L.P., Kaltenbaach, K. The assessment and management of Neonatal Abstinence Syndrome. Primary Care, 3rd editions, Hoekelman + Nelson (eds.), C.V. Mosby Company, St. Louis, MO., pp. 1367-1378, 1992. The FINNEGAN NEONATAL ABSTINENCE SCORE is for the assessment of infants exposed in utero to psychoactive drugs, particularly opioids/opiates. Evaluator should check signs or symptoms observed at various time intervals and add the scores to obtain a total score. Observation of the scores over the time interval provides the progression/diminution of symptoms. Copyright, 2007