CONDITION

Infant of a substance-using mother

A newborn condition involving possible effects from alcohol, nicotine, medicines, or other substances used during pregnancy.

WHAT IT IS
Effects of substance exposure before birth

BODY SYSTEM
Nervous system, digestion, breathing, and growth

MAIN SYMPTOMS
Jitteriness, feeding trouble, unusual crying, poor sleep

WHAT CAUSES IT
Prenatal exposure to alcohol, nicotine, medicines, or drugs

HOW IT IS DIAGNOSED
Exposure history, newborn examination, and sometimes toxicology testing

MAIN TREATMENT
Supportive newborn care, feeding help, sometimes medicines

CAN IT BE CURED?
Sometimes - short-term withdrawal usually resolves

IS IT AN EMERGENCY?
Sometimes - breathing difficulty, seizures, or unresponsiveness

LONG-TERM OUTLOOK
Most do well; alcohol exposure can cause lifelong effects

Overview

"Infant of a substance-using mother" is a term sometimes used in medical records for a baby exposed to alcohol, nicotine, certain medicines, or other drugs during pregnancy. It describes a situation, not a single disease.

The wording can feel blaming. Health professionals increasingly use terms such as prenatal substance exposure because substance use disorders are medical conditions and because prescribed medicines may also affect a newborn.

Exposure does not mean that a baby will develop symptoms. The effects depend on the substance, amount and timing of exposure, whether several substances were involved, the baby's gestational age, and other pregnancy and health factors.

Some babies have temporary problems with feeding, sleep, movement, or breathing. A baby exposed to opioids like oxycodone or morphine may develop neonatal opioid withdrawal syndrome , or NOWS, after the opioid supply stops at birth. The broader term neonatal abstinence syndrome , or NAS, may be used when withdrawal involves opioids or other substances.

Alcohol exposure is different from newborn withdrawal. It can affect growth and brain development, sometimes causing lifelong conditions known as fetal alcohol spectrum disorders. Nicotine, stimulants like methylphenidate or lisdexamfetamine , sedatives, cannabis, and other exposures have their own possible effects.

Early recognition matters because newborn symptoms may need monitoring and treatment. Follow-up also helps identify feeding, growth, hearing, vision, movement, learning, or developmental concerns as early as possible.

Symptoms

Symptoms differ widely. Some babies have no obvious signs, while others need care in a newborn unit.

Possible early signs include:

Opioid withdrawal may begin after birth rather than immediately. The timing is influenced by the opioid involved, the last exposure, other medicines or substances, and the baby's maturity.

Jitteriness does not always mean withdrawal. Low blood sugar, infection, low calcium, neurological problems, and normal newborn movements can look similar. Seizures are not typical jitteriness and require urgent assessment.

Prenatal alcohol exposure may not cause withdrawal. Some affected babies have poor growth or characteristic physical findings, but many effects are not clear during the newborn period. Problems with attention, behaviour, learning, or coordination may become noticeable later in childhood.

- Trembling, jitteriness, or increased muscle tightness
- A high-pitched or difficult-to-settle cry
- Poor sleep or difficulty staying calm
- Trouble sucking, coordinating feeds, or gaining weight
- Vomiting, loose stools, sweating, or frequent yawning
- Fast breathing, sneezing, or a stuffy nose

- Increased sensitivity to light, sound, or touch
- Skin irritation from frequent movement or loose stools

Causes and risk factors

The condition results from exposure through the placenta during pregnancy. After birth, the supply suddenly stops. Substances that cause physical dependence may then produce withdrawal.

Possible exposures include:

A baby can develop opioid withdrawal after medically supervised treatment during pregnancy. This does not mean the treatment was wrong. Methadone and buprenorphine treatment can help stabilise opioid use disorder and reduce serious pregnancy risks.

The chance and severity of symptoms cannot be predicted from one factor alone. Premature babies may show different or less obvious withdrawal signs. Genetics, placental function, nutrition, infections, prescribed medicines, and the home environment may also influence outcomes.

Substance exposure should not be assumed from a baby's appearance or a parent's social circumstances. Care should be based on respectful history-taking, clinical findings, consent requirements, and local law and policy.

- Opioids, including heroin, fentanyl, and prescribed opioid pain medicines
- Medicines used to treat opioid use disorder, such as methadone or buprenorphine
- Alcohol
- Nicotine and tobacco smoke
- Benzodiazepines and other sedating medicines
- Stimulants such as cocaine or methamphetamine
- Cannabis
- Several substances used together

Diagnosis

There is no single test that diagnoses every effect of prenatal substance exposure.

The care team starts with the pregnancy and medication history. This may include prescribed

medicines, nonprescribed substances, alcohol, nicotine, treatment for a substance use disorder, and when each was last used. Honest information helps the team plan monitoring and feeding support.

The baby is examined for problems with alertness, movement, muscle tone, feeding, sleep, breathing, temperature, and weight. Blood tests or other investigations may be needed to rule out infection, low blood sugar, or another cause of the symptoms.

Some hospitals use structured assessments for opioid withdrawal. Traditional scoring tools count individual signs. Another approach, called Eat, Sleep, Console , focuses on whether the baby can eat effectively, sleep for a reasonable period, and be comforted.

Urine, meconium-the baby's first bowel movements-or umbilical cord tissue may sometimes be tested. These tests can support evidence of exposure, but each detects substances over a different time period. A negative result does not rule out every exposure. A positive result does not show how severely a baby is affected or determine someone's ability to parent.

Fetal alcohol spectrum disorders often cannot be confirmed in the newborn period. Diagnosis later may involve growth records, physical examination, developmental assessment, and reliable information about alcohol exposure during pregnancy.

Treatment and management

Treatment is matched to the baby's symptoms rather than to exposure alone.

Supportive care is the main treatment for newborn withdrawal. A quiet room, dim lighting, skin-to-skin contact, gentle swaddling, and consistent comforting can reduce overstimulation. Keeping the baby with a parent when medically safe may support bonding and help the care team understand what settles the baby.

Feeding support is important. Babies may tire easily, suck poorly, or need smaller and more frequent feeds. The team may monitor weight, hydration, vomiting, and stool frequency. Some babies need higher-calorie feeds or temporary tube feeding.

Whether breast milk is suitable depends on the substance involved, recent use, prescribed treatment, infections, and other safety concerns. Breastfeeding is often supported for a parent who is stable on prescribed methadone or buprenorphine when there is no separate reason to avoid it. The maternity and newborn team should give substance-specific advice.

If opioid withdrawal remains severe despite supportive care, medicine may be used to control symptoms. Opioid medicines are commonly used and then reduced gradually under hospital supervision. Other medicines may be considered when symptoms involve more than one substance or remain difficult to control.

Treatment for alcohol, stimulant, nicotine, or cannabis exposure is generally supportive because there is no medicine that reverses prenatal exposure. Any breathing, feeding, heart, or neurological problem is treated directly.

Discharge planning may include a feeding plan, safe-sleep guidance, early follow-up, developmental services, and support for the parent's own treatment and recovery. Care should aim to keep the baby safe while preserving family connection whenever possible.

Complications

Short-term complications can include dehydration, poor weight gain, skin breakdown, difficulty maintaining body temperature, or the need for tube feeding. Severe withdrawal may require a longer hospital stay. Seizures or major breathing problems are uncommon and may point to another medical condition.

Prenatal exposure may occur alongside premature birth, low birth weight, limited prenatal care, infection, poor nutrition, or exposure to several substances. These factors can also affect health and development.

Long-term outcomes are not the same for every substance. Evidence about the independent effects of prenatal opioid exposure is still developing because social conditions and other exposures are difficult to separate.

Prenatal alcohol exposure can cause lasting problems with learning, memory, impulse control, communication, coordination, and daily functioning. These effects may not become clear until school demands increase.

Exposure does not determine a child's future. Stable caregiving, good nutrition, healthcare, early developmental support, and protection from smoke and unsafe substance storage can all support the child's health.

Prevention

Prenatal substance exposure can sometimes be prevented or reduced, but dependence cannot always be stopped safely without treatment.

If you are pregnant or planning pregnancy, tell a healthcare professional about alcohol, nicotine, prescribed medicines, nonprescribed drugs, and supplements. This information should be used to provide care, not punishment.

Do not stop prescribed opioids, benzodiazepines like diazepam or lorazepam , or treatment for

opioid use disorder suddenly without medical advice. Abrupt withdrawal can be dangerous. Heavy or dependent alcohol use also needs prompt medical support because alcohol withdrawal can be serious.

Treatment for substance use disorder during pregnancy can improve safety for both parent and baby. Support may include medication for opioid use disorder, counselling, mental health care, help with housing or transport, and protection from violence.

After birth, use a separate, flat sleep surface for the baby and keep the home and car smoke-free. Store medicines, alcohol, cannabis products, and other substances locked away from children.

Past exposure cannot be undone. The useful next step is supportive prenatal care, safe treatment, and appropriate follow-up rather than blame.

Living with it and what to expect

Newborn withdrawal usually improves over days to weeks, although the exact course is not predictable. Babies who need medicine are monitored while it is gradually reduced. Feeding or settling difficulties may continue for a time after other symptoms improve.

Routine follow-up often starts soon after discharge. Visits may check feeding, weight, sleep, muscle tone, hearing, vision, and achievement of developmental milestones such as sitting, walking, talking, and playing.

Most children with short-term withdrawal do not continue to have withdrawal for years. Later behavioural or learning problems cannot automatically be blamed on newborn withdrawal because development is influenced by many medical, family, and social factors.

Children with known prenatal alcohol exposure may need assessment over several years. Early childhood services, speech therapy, occupational therapy, school support, or behavioural care may help when specific needs appear.

Bring concerns to routine appointments rather than waiting for a child to "grow out of" a difficulty. Early support does not require certainty about the cause and can help a child develop skills.

When to get medical help

Call emergency services if a baby:

Seek urgent medical care the same day if a baby:

Routine follow-up is appropriate for concerns about weight gain, sleep, muscle tone, hearing, vision, behaviour, language, or developmental milestones when the child is otherwise well. Arrange an earlier appointment if these changes are persistent or getting worse.

- Stops breathing, struggles to breathe, or turns blue or grey
- Has a seizure
- Is limp, unresponsive, or cannot be awakened
- May have swallowed or touched an unsafe substance
- Has a rectal temperature of 38°C or higher and is under 3 months old
- Is feeding much less than usual or repeatedly vomits
- Has far fewer wet diapers or other signs of dehydration
- Is increasingly difficult to wake or comfort
- Has worsening shaking, stiffness, or unusual movements
- Develops fast breathing, marked sweating, or poor colour

Common questions

Will every exposed baby have withdrawal?

No. Withdrawal depends on the substance and how the baby responds. Opioids can cause NOWS, but not every exposed baby needs medicine. Alcohol, nicotine, cannabis, and stimulants do not produce the same opioid-withdrawal pattern.

How long does newborn withdrawal last?

Symptoms usually improve over days to weeks. Some substances remain in the body longer than others, and symptoms may begin after the baby has left hospital. Feeding and sleep difficulties can outlast the most obvious withdrawal signs.

Can my baby test positive because of prescribed treatment?

Yes. Methadone, buprenorphine, opioid pain medicine, or another prescribed drug may be detected if the test includes it. A positive test shows exposure; it does not prove misuse or show how the baby will be affected.

Can I breastfeed?

Sometimes. The answer depends on the particular substance, how recently it was used, whether treatment is stable, and other health factors. Breastfeeding is often possible during stable methadone or buprenorphine treatment, but the newborn team should review your

specific situation.

Does newborn withdrawal cause permanent brain damage?

Withdrawal itself does not mean permanent brain damage. Long-term development is shaped by the substance, other pregnancy factors, genetics, health, caregiving, and environment. Prenatal alcohol exposure can cause lifelong brain-based effects.

Will this automatically lead to child protection involvement?

Policies and legal requirements differ by location. A positive test alone does not describe parenting ability. Healthcare and social care teams should assess the baby's safety, the family's needs, available support, and local reporting requirements.

Sources

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