



# NEONATAL ABSTINENCE SYNDROME

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## WHAT IS NAS?

NAS is the abbreviation for Neonatal Abstinence Syndrome. This is a condition caused when a baby withdraws from drugs they are exposed to during birth, these include:

- Opiates such as heroin, methadone, buprenorphine and suboxone
- Stimulants like amphetamines or cocaine
- Antidepressant medicines such as selective serotonin reuptake inhibitors (SSRIs)
- Depressants such as barbiturates, or alcohol, or marijuana
- Nicotine from cigarette smoking.



## SYMPTOMS

The baby has become accustomed to having this drug and at birth this dependence continues. However, the drug is no longer available, causing the baby's central nervous system to become overstimulated causing symptoms of withdrawal.

Each baby experiences symptoms differently. Symptoms of withdrawal in full-term babies may include:

- Tremors (trembling)
- Irritability (excessive crying)
- Sleep problems
- High-pitched crying
- Tight muscle tone
- Hyperactive reflexes
- Seizures
- Yawning
- Stuffy nose, and sneezing
- Poor feeding and suck
- Vomiting
- Diarrhoea
- Dehydration
- Sweating

## DIAGNOSIS

It is not possible to predict before birth which babies may develop NAS. The Finnigan Scale is used to diagnose NAS post birth through a points system for signs, symptoms and severity of these. Many NAS symptoms occur within days after birth between 24-48 hours.

## TREATMENT

Specific treatment for NAS will be determined by the babies' doctors and will be based on a variety of considerations. Treatments include:

- Medications such as morphine and phenobarbital to treat symptoms such as seizures and to help relieve pain and problems of withdrawals
- Swaddling or snugly wrapping of the baby in a blanket may help comfort the baby.
- Increased calories because of their increased activity; they may need a higher calorie formula.
- Intravenous (IV) fluids are sometimes needed if the baby becomes dehydrated or has severe vomiting or diarrhoea.

## POSSIBLE EFFECTS OF NAS

The problems that children diagnosed with NAS might experience are different for each child and can depend on the drug exposure amount and type.

These effects can include:

- Impact on brain structure and functioning
- Visual motor integration
- Attention: increased prevalence to ADHD
- Verbal and short and long-term memory
- Learning difficulties and difficulties processing information
- Difficulties with reasoning, identifying consequences and problem solving
- Internalising and externalising behaviour problems.

There can also be long term effects which can include:

- Increased prevalence in heart defects
- Challenges with schooling and disrupted school experiences
- Drug and alcohol related problems
- Mental health issues
- High risk activities and behaviours due to impulse control.

# EARLY INTERVENTION

Early intervention and accessing support early is important.

- Early childhood is a time of remarkable brain development.
- Learning and development is most rapid during the early childhood years.
- Future development is based on the child's learning during these early years.

Interventions can be targeted to address the child's and family's specific needs. Children often benefit from a combination of therapies – this is called a multidisciplinary approach. Children often need different therapies or therapy combinations at different stages of their development.

The types of therapies include:

- Occupational Therapy - to assess motor skills (walking, running and tying shoe laces), sensory processing (how we receive, organise, and understand visual and auditory messages), and visual perceptual skills (making sense of what we see).
- Speech Pathology - to assess understanding and use of language, verbal reasoning, and use of speech sounds.
- Psychology - to learn how the child's brain works, assessing what the child knows and test their memory capacity.

# LINKS TO ADHD AND AUTISM

Children who have been exposed to drugs during pregnancy have a higher risk of possessing symptoms commonly associated with attention deficit hyperactivity disorder (ADHD) and autism spectrum disorders (ASD) compared to children who were not exposed to opiates or similar substances.



## TEACHING STRATEGIES

Teaching strategies which could be used for children with a diagnosis of NAS include:

- Implementing consistent and predictable routines
- Lots of practice
- Be really clear about changes
- Small steps and breaking down big tasks
- Visual cues and aids to accompany instructions
- Minimise visual and auditory distractions
- Tuition
- Educational video games
- Enriched spaces
- Space for voluntary physical activity.

## THERAPEUTIC STRATEGIES

### Setting expectations

Carers often come under pressure from external family, friends and supporting professionals. When setting expectations consider the child's developmental age not birth age.

### Name the need

This helps children make sense of their behaviour and to understand why they do what they do.

### Time in

For children who find it hard to regulate themselves time-in can help. Time-in means keeping the child close. This can be done by asking them to help with something, or replicating the nurture given when a baby is dysregulated and trying to manage their emotions.

### Use touch or parental presence

If a child is trying to work something out for themselves and is very angry or frustrated just sitting near them and asking if they would like you to help can help them to regulate.

### Repair the mistakes

Remember there is no such thing as a perfect therapeutic parent.