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Neonatal Abstinence Syndrome- Baby perspective

24.07.08



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- “Babies of women dependant on alcohol or drugs are at an increased risk of harm and poor developmental outcomes due to complex interplay of psychosocial and environmental adversity. Assessment of risk of harm or neglect to the baby should occur throughout the pregnancy and postnatal period”

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- Babies of women with dependence (4-6 weeks prior to birth) on opioids, stimulants, or alcohol are at risk of NAS
- May have delayed onset of NAS onset with antidepressants, sedatives, stimulants or alcohol

Impact of substance use on infant



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Short term

- Neonatal abstinence syndrome –narcotics, alcohol, tobacco, benzodiazepines, amphetamines, cocaine

Medium term

- 'Subacute withdrawal' which may last 4 - 6 months - irritability, sleep problems, hyperactivity, feeding problems & hypertonia – benzodiazepines, amphetamines, SSRIs, cannabis, tobacco
- Increased risk of SIDS –tobacco, cannabis, sedatives including alcohol and narcotics

	Antenatal effects *	Effects on baby in first week**	Sub-acute	Longer term effects	Minimum recommended withdrawal assessments
Alcohol	Teratogen	CNS hyperexcitability, GI symptoms, poor settling, seizures		FAS, FASD, SIDS risk	NAS scoring for 7 days
Cannabis			Yes	SIDS risk	None
Opiates	Fetal Loss, IUGR, prematurity (greater risk with regular heroin use than with methadone)	Respiratory depression Withdrawal/NAS (seen in up to 66%)	Yes	SIDS risk, Increased risk of strabismus	NAS scoring for 7 days
Sedatives including Benzodiazepines	Unconfirmed as a teratogen, case reports of malformations, fetal loss, increased perinatal death	Early onset symptoms associated with hypothermia, poor feeding, respiratory problems, lethargy, hypotonia. Chronic exposure associated with cardiorespiratory, neurological, settling and feeding difficulties	Yes	SIDS risk	Dependent on antenatal medical assessment: - NAS scoring for 7 days - weekly outpatient review until 4 weeks
Stimulants (including amphetamines, cocaine)	Unconfirmed as a teratogen. Case reports of malformations. Placental abruption, IUGR, prematurity, cerebral ischaemic lesions	Agitation, overactivity. Withdrawal/NAS (seen in up to 49%)			NAS scoring for 7 days. Weekly outpatient review until 4 weeks.
Tobacco	Placental abruption, IUGR, prematurity	Increased motor activity, agitation	Yes	SIDS risk	



Care of baby at risk of NAS

- All babies at risk need paediatric referral
- Keep babies and mother together wherever possible
- Promote breast feeding (benefits outweigh risks), but some precautions
- Assess babies at risk of withdrawal from 2 hours after birth every 4 hours for 7 days - Finnegan tool to be used



Care of baby at risk of NAS

- Feeding and gastrointestinal disturbances are common in baby's withdrawing from maternal substance use
- Baby should be weighed daily
- If a baby is losing weight with breastfeeding alone, consideration should be given to the use of supplemental expressed breast milk or formula until adequate milk supply is established

Care of baby at risk of NAS



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- Clinical signs similar to those of NAS may be caused by concurrent illness, such as infection and low blood sugar. This should be considered when assessing a baby at risk of NAS. Differential diagnosis should include consideration of discontinuation syndrome, which may occur in up to 30% of babies born to women who use antidepressants, particularly SSRIs.
- Investigations should be performed as required for diagnosis and not solely on account of a history of maternal drug use
- Routine urine or meconium drug screening for illicit drugs is not recommended

Opiate NAS



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Acute withdrawal from opiates

- Most infants will experience signs of withdrawal
- Onset of withdrawal varies
- Heroin – 48 – 72 hours post birth
- Methadone - may be delayed 1 – 2 weeks
- Does not appear to be dose related
- Poly drug use may impact on degree of withdrawal

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Sub acute withdrawal from opiates

- Irritability & sleep disturbances may persist for 4-6 months = **unsettled infants**
- Effects of infant's environment combined with withdrawal
- **Families need to be well supported postnatally**

NAS- Finnegan Scoring System



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APPENDIX 1

NEONATAL ABSTINENCE SCORING SYSTEM

NAME: _____ Date and Time in Hours _____

System	Signs and Symptoms	Score																		
CENTRAL NERVOUS SYSTEM DISTURBANCES	Excessive High Pitched (OR Other) Cry	2																		
	Continuous High Pitched (OR Other) Cry	3																		
	Sleeps < 1 hour after Feeding	3																		
	Sleeps < 2 hours after Feeding	2																		
	Sleeps < 3 hours after Feeding	1																		
	Hyperactive Moro Reflex	2																		
	Markedly Hyperactive Moro Reflex	3																		
	Mild Tremors Disturbed	1																		
	Moderate-Severe Tremors Disturbed	2																		
	Mild Tremors Undisturbed	3																		
	Moderate-Severe Tremors Undisturbed	4																		
	Increased Muscle Tone	2																		
	Excoriation (Specify Area):	1																		
	Myoclonic Jerks	3																		
Generalised Convulsions	5																			
METABOLIC/VASOMOTOR/ RESPIRATORY DISTURBANCES	Sweating	1																		
	Fever (37.3 – 38.3C)	1																		
	Fever (38.4C and higher)	2																		
	Frequent Yawning (> 3 – 4 times)	1																		
	Mottling	1																		
	Nasal Stuffiness	1																		
	Sneezing (> 3 – 4 times)	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																		
TOTAL SCORE																				
INITIALS OF SCORER																				

Adapted from – L.P. Finnegan (1986)



Treatment of NAS

- Supportive care (first line of treatment for all babies experiencing withdrawal)
- Morphine treatment for opiate NAS
- In addition, Phenobarbitone may be indicated if concurrent use of other drugs (benzos) & withdrawal not adequately controlled
- Non opiate NAS requiring medication, Phenobarbitone

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Care of infant in postnatal area

- In addition to supportive care
- 7 day stay for NAS [opiate, alcohol, sedatives, stimulants]
- At RWH most infants medicated day 6 for opiate NAS
- Daily paediatric review
- Finnegan Scoring System
- Small frequent feeds (BF and comps until lactation established)
- Daily weigh

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Issues for parents

- Low self esteem
- May feel of little value to infant
- Fearful of Child Protection
- Guilt & shame
- Concerns about infant's health
- Loss of control
- Difficulty expressing self /communicating

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Morphine treatment

- At WADS 23.25% medication rate (2006)
48% 2007
- Oral morphine approx 28 days
- Stabilised in SCN
- 6 hourly, if not tolerated 4 hourly
- Dose calculated on birth weight
- Reduced by 10% every 3 days
- Encourage parental participation ++

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Working effectively with parents of withdrawing infant

- Put drug use aside, consider them as parents of an unwell baby
- Listen to and value the woman's point of view
- Skill parents up
- Involve parents in assessment
- Provide privacy & confidentiality
- Provide encouragement & encourage contact with infant
- Provide a safe environment if substance affected