GUIDELINE

Maternal Medication/Substance Use

Scope (Staff):	Midwifery, Nursing and Medical Staff
Scope (Area):	KEMH Postnatal Wards

Child Safe Organisation Statement of Commitment

CAHS commits to being a child safe organisation by applying the National Principles for Child Safe Organisations. This is a commitment to a strong culture supported by robust policies and procedures to reduce the likelihood of harm to children and young people.

This document should be read in conjunction with this disclaimer

Contents

Aim

Outline the systems and processes for caring for mothers and their newborn where the is a known history of drug and/or alcohol use or opioid replacement therapy.

Risk

Inaccurate monitoring or identification can lead to unfavourable withdrawal symptoms in the newborn and inadequate follow-up processes.

Key points

- All women and their neonates with a history of drug and/or alcohol use, or who are receiving opioid replacement therapy during pregnancy are expected to stay in hospital for 5 days (or more if required) to allow assessment for neonatal abstinence syndrome (NAS). Neonates of mothers in whom benzodiazepine abuse may be a possibility may require a longer duration of stay with the literature recommending hospital stays up to 7 days.
- Naloxone is contra-indicated for use in neonates of opiate-dependent mothers or mothers suspected of opioid misuse. It may precipitate rapid withdrawal and seizures.
- All neonates at HIGH risk for drug withdrawal shall be commenced on an MR495 ‘Neonatal Abstinence Scoring System’ chart within 2 hours of birth (see QRG for high risk drugs)
- All neonates shall have a daily weight performed.
- Neonates should receive Hepatitis B vaccination prior to discharge.
- Encourage women to arrange hepatitis B vaccination prior to discharge and hepatitis C treatment if PCR positive.
- Women should be given written and verbal information about NAS and safety planning for care and feeding of the neonate in the event of drug or alcohol use.
- Discuss with the mother strategies to prevent Sudden Infant Death Syndrome (SIDS) and provide written information prior to discharge.
- Neonates shall not be discharged home with their mothers without consultation with the Women’s and Newborn Drug and Alcohol Service (WANDAS) team.

Examples of Substances that are Used or Misused

Refer to **Appendix 1**in this document.

Neonatal Abstinence Syndrome (NAS) Screening and Management

The use of opioid antagonistic drugs such as Naloxone should be avoided during resuscitation or in the neonatal period if the neonate is born to a mother has opioid use during pregnancy or is suspected of using opioids.[1]

Commence the neonate on the MR495 NAS chart within 2 hours of birth if the mother has a history of illicit substance use, prescribed high risk medication abuse or who is receiving medically supervised opioid replacement therapy (e.g. Buprenorphine, Methadone etc.) during pregnancy.

Refer to Maternal Medication/Substance Use - Quick Reference Guide and Assessment Charts on how to perform NAS screening and management of the neonate experiencing withdrawal symptoms.

Consideration of Differential Diagnoses in Infants Symptomatic of Withdrawal

Symptoms typically seen in withdrawal are non-specific, variable in timing and severity and are non-diagnostic of the underlying cause. Infants presenting with jitteriness/tremor, poor feeding, irritability, lethargy, hypo/hypertonia or temperature instability MUST be examined with intent to exclude other treatable causes. Potentially life-threatening conditions such as sepsis, hypoglycaemia, viral/herpetic encephalitis, metabolic disease, pneumonia and colitis may also present with similar symptomatology and must be considered with appropriate clinical examination and investigation if suspected. Infants in whom the diagnosis is unclear should be discussed with the paediatric consultant / senior registrar on call, and in general such infants should be admitted to SCN for monitoring and management pending clarification of the clinical picture.

Withdrawal Symptoms in the Neonate

Note: timing of symptoms may be variable in the setting of polysubstance use.

Drug / Alcohol	Common Neonatal Withdrawal Symptoms	Additional Information
CNS depressants		
Marijuana	Mild deficits in visual functioning[2], heightened tremors[2, 3], startling[2, 3], jitteriness, hypotonia, lethargy, decreased arousal[4],and increased hand-to-mouth movements.[3]	
Alcohol	Jitteriness, irritability, seizures, opisthotonus, abdominal distension, excessive mouthing movements, and reflex abnormalities.[2]	Neonates are at increased risk for hypoglycaemia, decreased milk intake, impaired motor development and changes in sleep patterns.[5]

CNS stimulants		
Amphetamines	Decreased arousal, increased stress and poor quality of movement.[3]	Congenital anomalies associated include risk to the central nervous system, cardiovascular, oral clefts, and limbs.[3]
Methamphetamines	Decreased arousal, increased stress, poor quality of movement.[2]	Neonates are more likely to be small for gestational age.[6] Animal studies have shown alterations in the central nervous system including learning impairment, behavioural deficits, increased motor activity, and postural motor movements.[6]
Cocaine	Jitteriness and tremors, high-pitched cry, irritability, excessive suck, hyperalertness, autonomic instability, hypertonicity and excitability.[2]	Congenital anomalies associated with cocaine use includes increased risk for of genitourinary malformations, and lower birth weights, length and h/c.[3]
Drug / Alcohol	**Common Neonatal Withdrawal Symptoms**	**Additional Information**
Nicotine	Impairment of arousal, irritability and hyperexcitability, hypertonicity and tremors.[2]	Increased risk of perinatal mortality and Sudden Infant Death Syndrome (SIDS).[3]
Phencyclidine (PCP)	Decreased attention, high-pitched cry, poor visual tracking, coarse flapping tremors, lethargy, nystagmus/roving eye movements, poor feeding and altered newborn reflexes.[2]	

Opioids	Tonal problems, tachypnoea, feeding and sleeping problems, fever, seizures,[2] sweating, hyperirritability, posturing, exaggerated startle response, tachycardia, hiccupping, sneezing, and a poor sucking action.[7]	Neonates may have poor feeding patterns, slow weight gain, electrolyte imbalances, diarrhoea and dehydration.[7] Maternal heroin use leads to increased perinatal mortality rates. Neonates may exhibit symptoms within 24 hrs of birth.[3] Withdrawal symptoms depend on the half-life of the opioid - the longer the half-life the later withdrawal symptoms occur.[3]
Buprenorphine	Respiratory distress, increased tone, tremors, seizures, poor feeding, vomiting, regurgitation, diarrhoea, and sweating.[3]	Partial opioid agonist. It is transferred to the neonate via the placenta. NAS is apparent in only a few exposed neonates, and symptoms are usually mild and require no treatment. Symptoms usually appear at 12 hours, peak at about 72 hours and alleviate at 120 hours after the last dose of Buprenorphine.[8]
Naltrexone		Opioid antagonist. Limited data is available about the impact of oral or implanted Naltrexone on foetal-maternal complications. However, data from limited cases in Western Australia indicate that neonatal and obstetric outcomes were unremarkable.[8]

Methadone	Respiratory distress, increased tone, tremors, seizures, poor feeding, vomiting, regurgitation, diarrhoea, and sweating.[3] Stabismus[3]	60-90% of neonates experience some form of NAS if the mother is on a methadone maintenance treatment.[8] Withdrawal symptoms for methadone-maintained neonates have a delayed presentation generally after 24 hours, and usually within 48-72 hours following birth, but can last up to 4 weeks of age.[3] Neonates tend to be smaller but show a 'catch-up' growth rate by 12 months of age.[3] Other effects include reduced postnatal weight gains, head circumference, and height, and there is an increased risk for mortality, strabismus and behaviour effects e.g. mood, attention and cognitive effects.[8]
Benzodiazepines	Hypoventilation, irritability, hypertonicity, and "floppy infant syndrome".[2]	Often seen as licit drugs and symptoms can be unrecognised by mothers and staff if not revealed by the maternal medication history.[2] Symptoms can often appear within a few days of birth to 3 weeks after birth and they may last for several months.[2] It is recommended that benzodiazepine neonates should be observed for up to 7 days in hospital.[1]
Hallucinogens		
Inhalants	Characteristic odour (pulmonary excretion), excessive and high-pitched cry, hyperactive Moro reflex, sleeplessness, tremors, hypotonia and poor feeding.[1]	Congenital anomalies can include cardiovascular defects or medullary sponge kidney.[3] Inhalants use is associated with low birth weight neonates, birth defects, and SIDS.[9]

Management of Behavioural Patterns with NAS Symptoms

See Appendix 2 in this guideline for calming suggestions for NAS symptoms. For infants on NAS scoring >8 see Neonatal Guideline for Neonatal Abstinence Syndrome

Weight Monitoring

Neonates of mothers with drug or alcohol problems are at increased risk of preterm birth, low birth weight, infection and hypoglycaemia.[1]

Weigh all neonates **daily**.

Breastfeeding

Refer to Obstetrics and Gynaecology Clinical Practice Guideline - Women and Newborn Drug and Alcohol Service (WANDAS) and refer to the 'Postnatal Management' section for information and advice regarding individual drug and alcohol effects and breastfeeding. Information is also available about management should a women intend to use drugs or alcohol while breastfeeding.

Immunisation

Immunisation of the neonate for Hepatitis B should be performed prior to discharge. Refer to: WNHS – Obstetrics and Gynaecology Guideline

- Vaccinations (Neonatal section for Hepatitis B Vaccine and Immunoglobulin)
    - Immunoglobulin - Give to the neonate if the mother is known to be hepatitis B surface antigen positive.

Discharge Planning

Parental Education

- Ensure the woman has been given verbal and written information (normally provided by the WANDAS team) about:
    - 'Neonatal Abstinence Syndrome (NAS)' - includes comforting techniques for the neonate.
    - Breastfeeding - including advice regarding feeding management should the woman misuse drugs or alcohol when she is discharged.
- Discuss/offer demonstration of formula preparation to women who are not breastfeeding, or who would like information if they may be at risk for substance or alcohol use after discharge.
- Offer parents of the neonate CPR training. Some neonates are at higher risk of SIDS.[10]

Criteria for Discharge of the Neonate

The paediatrician will determine if the neonate is suitable for discharge. However, **the mother and neonate shall not be discharged until the WANDAS Clinical Midwifery Consultant and the WANDAS team has determined that discharge for both is safe.** The WANDAS team will assess the psycho-social environment to ensure safety prior to discharge and ensure community supports are adequate.

Note: A woman with drug or alcohol use in pregnancy who has **not** attended the WANDAS clinic, and who is under the care of another obstetric team shall **not** be discharged with her baby until the woman's obstetric team and paediatrician consult with the WANDAS team.

- The neonate should be more than 5 days old (up to 7 days for benzodiazepines).
- The neonate is healthy, feeding well, and is appropriately gaining weight.
- The parent/s can safely provide care.
- The neonate is being discharged to a safe environment.
- There is no court order in place to prevent discharge home.

Discharge Against Medical Advice

If a mother or father wish to take their baby home and medical concerns exist for the safety of the neonate refer to the Neonatal Clinical Guideline - Discharge Against Medical Advice for management. The on-call paediatrician should be notified as soon as possible, should this situation arise as there may be indication to initiate Section 40 orders under Duty of Care obligations, if it is considered that the infant is at serious risk if removed from the hospital. The on-call social worker, or Crisis Care should also be contacted as soon as possible, preferably to assist in de-escalating the situation and formulating an appropriate strategy for both the mother and medical/midwifery staff.

The ward co-ordinator, the WANDAS CMC, and the Hospital Clinical Manager should also be informed as soon as possible in such an event.

Follow-Up

Neonates of all mothers who have been seen at WANDAS clinic antenatally, those who have been considered at risk for NAS, infants with birthweight <2500 gm should be discharged following discussion with the paediatric consultant / senior registrar, WANDAS or allocated social worker.

Early follow-up of clinical progress, in particular to review symptoms, feeding and weight gain are necessary and should be undertaken by visiting midwifery staff, local child health nurse or GP.

All metropolitan infants are offered neonatal outpatient clinic with the multidisciplinary WANDAS follow up clinic at around 2 weeks and 3 months (or more if weaning morphine as an outpatient) Rural follow up options will need further discussion and may not be possible for infants still requiring opiates

Behaviour	Calming Suggestions
Regurgitation and/or vomiting	• Burp the baby each time he/she stops sucking and after each feed[12] • Support the baby's cheeks and lower jaw to enhance the sucking/swallowing efforts[12] • Keep the baby and the bedding clean from vomit and the smell may increase the problem and irritate the baby's skin[12]
Excessive sucking of fists	• Cover hands with gloves or mittens if the skin becomes damaged[12, 13] • Keep damaged skin clean. Avoid lotions/creams as the baby may suck them[12]
Hyperactivity	• Use a soft flannel blanket or a short haired sheep skin covered with a cotton sheet for comfort[12]
Trembling	• Keep the baby in a warm quiet room[12] • Avoid excessive handling[12]
Fever (Temperature over 37°)	• Keep clothing to a minimal[12] • Avoid excessive bedclothes[12] • Advise parents to seek medical advice if temperature stays elevated for more than 4 hours or if symptoms develop.[12]

Related CAHS internal policies, procedures and guidelines

Neonatal Guideline

- Discharge Against Medical Advice
- Hepatitis B Virus (HBV): Care of the infant born to a HBV positive woman
- Neonatal Abstinence Syndrome (NAS)

WNHS – Obstetrics and Gynaecology Guideline

- Vaccinations (Neonatal section for Hepatitis B Vaccine and Immunoglobulin)
- Women and Newborn Drug and Alcohol Service (WANDAS)

References and related external legislation, policies, and guidelines

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Appendix 1: Substances Used or Misused[11]

Opioids	CNS Stimulants	CNS Depressants	Hallucinogens
Agonists Codeine Fentanyl Heroin (Diacetyl morphine) Hydromorphone Morphine Methadone Meperidine Oxycodone Propoxyphene **Antagonists** Naltrexone **Mixed agonist-antagonist** Buprenorphine (Subutex) Butorphanol Nalbuphine Pentazocine	**Amphetamines** Amphetamine Dextroamphetamine Methamphetamine **Amphetamine-related** Benzphetamine Diethylpropion Ephedrine Fenfluramine Mazindol Methcathinone Methylphenidate (Ritalin) Pemoline Phentermine Phenylpropanolamine **Caffeine** **Cocaine** **Nicotine** **Dissociative anaesthetics** Phenylcyclidine (PCP) Ketamine **Selective serotonin reuptake inhibitors (SSRIs)** Citalopram (Cipramil, Celapram, Talam) Escitalopram oxalate (Lexapro, Esipram) Fluoxetine (Prozac, Lovan) Fluoxamine maleate (Luvox, Voxam) Sertraline (Zoloft, Zydep, Septrone) **Serotonin-noradrenaline reuptake inhibitors (SNRIs)** Venalafaxine hydrochloride (Efexor)	**Alcohol** **Barbiturates** **Benzodiazepines** Alprazolam Clonazepam Diazepam Flunitrazepam Oxazepam Tamazepam **Cannabinoids** Cannabis/marijuana Hashish	**Alkaloids** Lysergic acid diethylamide (LSD) Psilocin Psilocybin Dimethyltryptamine (DMT) Diethyltryptamine (DET) **Inhalants** [1] **Solvents and aerosols** (glues, gasoline, paint thinner, cleaning solutions, nail polish remover, freon) **Phenylethylamines** Mescaline Peyote **Stimulant with hallucinogenic properties** Methylenedioxyamphetamine (MDA) 3-methoxy-4,5-Methyenedioxyamphetamine (MMDA) 3,4-methylene-dioxyamphetamine (MDMA - Ecstacy) 3,4 methylene-dioxyamphetamine (MDEA) **Nitrates** **Nitrous oxide**

Appendix 2: NAS - Behavioural Patterns and Calming Techniques

Behaviour	Calming Suggestions
Prolonged crying (may be high pitched)	• Hold the neonate close to the body, perhaps wrapped in a sheet[12] • Decreased environmental stimulus e.g. decrease loud noises, bright lights, excessive handling etc.[12, 13] • Humming, gentle rocking[12] • Avoid rocking beds which may increase symptoms[13] • Quiet, soothing speaking voice[13] • Gentle slow handing of the baby[13] • Warm soothing baths • Carrying the baby in a sling • Pacifier (if parental choice)
Sleeplessness	• Reduce noise, bright lights, patting or touching the baby[12] • Soft, gentle rocking/music[12] • Clean nappy/dry bottom - check for rashes or skin irritation. Apply rash creams or zinc cream as required[12] • Feed baby on demand[12] • Avoid interruption of the baby's sleep state - wake only if feeding is needed[13]
Difficult or poor feeding	• Small frequent feeds[12, 13] • Feed in a quiet, calm environment with minimal noise or stimulus[12, 13] • Allow time for resting between sucking[12]
Sneezing, stuffy nose or breathing troubles	• Keep the baby's nose and mouth clean[12] • Avoid overdressing or wrapping the baby too tightly[12] • Feed the baby slowly, allowing rest periods between feeds[12] • Smaller, frequent feeds[12]

	• Keep baby in a semi-sitting position, well-supported and supervised[12] • Place baby on back to sleep - avoid the prone position[12] • If **breathing difficulties continue or worsen,** advise the parents to immediately contact the GP or PCH (on 08 645 6222) 24 hours a day and they will be put the call through to the Emergency Department[12]