

Opioid Analgesia for Women in Labour

Document Type	Guideline
Function	Clinical Practice, Patient Care
Directorate(s)	Women's Health
Department(s) affected	Maternity, Anaesthesia, Newborn Services
Applicable for which patients, clients or residents?	All maternity women, newborn infants
Applicable for which staff members?	All Auckland DHB clinicians in maternity including access holder lead maternity carers
Key words (not part of title)	Pain relief, maternity
Author - role only	Fellow - Anaesthesia
Owner (see ownership structure)	Service Clinical Director - Primary Maternity Service
Edited by	Clinical Policy Advisor
Date first published	25 October 2017
Date this version published	25 October 2017 - issued
Review frequency	3 yearly
Unique Identifier	CP01/BRD/105 – v01.00

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1. Purpose of guideline

- The purpose of this guideline is to promote safe midwifery prescribing of opioids for intrapartum pain relief.
- **Note:** Use of Remifentanyl in labour is covered in a separate Auckland District Health Board (Auckland DHB) guideline [Remifentanyl Patient Controlled Analgesia \(PCA\) for a Woman in Labour](#)

2. Guideline management principles and goals

Opioids may be a pain relief option in situations where non-pharmacological methods or Entonox™ have been ineffective, and rapid-onset analgesia is needed.

Pethidine has traditionally been used in labour, however morphine has fewer side effects and a shorter half-life compared to pethidine and its active metabolite norpethidine. The accumulation of norpethidine in the neonate can lead to adverse effects (including respiratory depression) and can affect newborn behaviour and breastfeeding. We therefore support the intrapartum use of morphine in preference to pethidine at Auckland DHB.

The Medicines Amendment Act (2013) and Misuse of Drugs Amendment Regulations (2014) (see [Legislation](#)) changes allow midwives to prescribe the following opioid medications from July 2014:

1. Pethidine
2. Morphine
3. Fentanyl

This guideline is applicable to core midwives and LMCs with access agreements at Auckland DHB who have satisfied the learning requirements for opioid prescribing described in [section 3](#). Names of those midwives who have satisfied these requirements will be recorded by the midwifery educators on a centrally-stored list available to Charge Midwives. Proof of satisfactory completion of learning requirements may be required on request. These midwives may prescribe opioids for intrapartum use only.

It is important to ensure:

- Morphine is prescribed after a routine assessment of the woman has been completed
- The woman is fully informed and consent is documented in the clinical record
- Morphine is prescribed only for those women ≥ 37 weeks' gestation. It must not be prescribed by midwifery staff for women in premature labour due to the increased risk of respiratory depression in the neonate. The obstetric team or on-call anaesthetist should be consulted for those women less than 37 weeks' gestation.
- Morphine is not administered in conjunction with any other opioid

- Entonox™ can be used concurrently with intrapartum morphine use; however care must be taken to ensure that the woman does not become excessively sedated. The New Zealand Society of Anaesthetists discourages the use of Entonox™ with fentanyl.

Fentanyl is only recommended in specific circumstances (eg morphine sensitivity). It is less easily titrated when compared to morphine and has a shorter duration of action making it less safe and less useful in this setting. The **prescription of fentanyl by midwives at Auckland DHB is therefore discouraged.**

Opioids should not be administered if an epidural is going to be sited imminently. Prior opioid administration in labour however does not preclude siting an epidural. Additional care should be taken in this situation since removal of the painful stimulus of labour risks excessive sedation in the woman.

3. New Zealand Midwifery Council education requirements for opioid prescribing

Midwives qualifying in New Zealand from 2014 onwards will have met the learning requirements for opioid prescribing in labour. For midwives who qualified and/or commenced practice in New Zealand prior to 2014, Auckland DHB recommends completion of a self-directed learning package designed by the New Zealand Midwifery Council to supplement the curriculum covered on the Midwifery Practice Day (compulsory education 2014 - 2017). Any midwife who did not complete a Midwifery Practice Day is required by the Council to complete a minimum of four hours' prescribing education, and the self-directed learning package has been recommended to them. Internationally qualified midwives should seek guidance from the Council as to how to meet their learning requirements.

This learning package is available [here](#).

The Council has now allowed DHB's to distribute and administrate this package themselves, but does wish to be provided with the names of those midwives who complete it. For Auckland DHB midwives and LMC's with access agreements, the completed assessment section should be forwarded to Auckland DHB midwifery educators, who will mark the papers and submit the names of those who have completed successfully, to the Council. Your paper can be posted, scanned and emailed to midwiferyeducation@adhb.govt.nz or left in the Midwifery Educators' Office in Ward 96, ACH.

4. Side effects of opioid analgesia

OPIOID	USUAL DOSE	ONSET (min)	PEAK EFFECT (min)	ELIMINATION HALF LIFE (hr)		ADVERSE EFFECTS	
				Maternal	Neonatal	Maternal	Neonatal
Pethidine	IV 12.5 - 25 mg	5	10			• Sedation	• Altered neonatal behaviour
	IM 50 - 100 mg	10	45	2 - 4	18 - 23	• Reduced level of consciousness	• Effects on breastfeeding • Respiratory depression
Morphine	IV - See flowchart					• Apnoea	• Neonatal respiratory depression
	IM 10 mg	5	20	2 - 4	7 - 10	• Respiratory depression	
Fentanyl	IV - See flowchart	1 - 3	5	3 - 4	6 - 30	• Allergy	• Neonatal respiratory depression

5. Precautions

Consultation with a specialist is recommended if:

- Body mass index > 40
- History of obstructive sleep apnoea
- Drug and alcohol addiction
- Significant cardiorespiratory, renal or liver disease
- Premature labour (due to increased risk of neonatal respiratory depression)
- Fetal heart rate abnormalities - consult with Obstetrician prior to administration

6. Contraindications

- Previous opioid allergy/anaphylaxis

7. Prescription

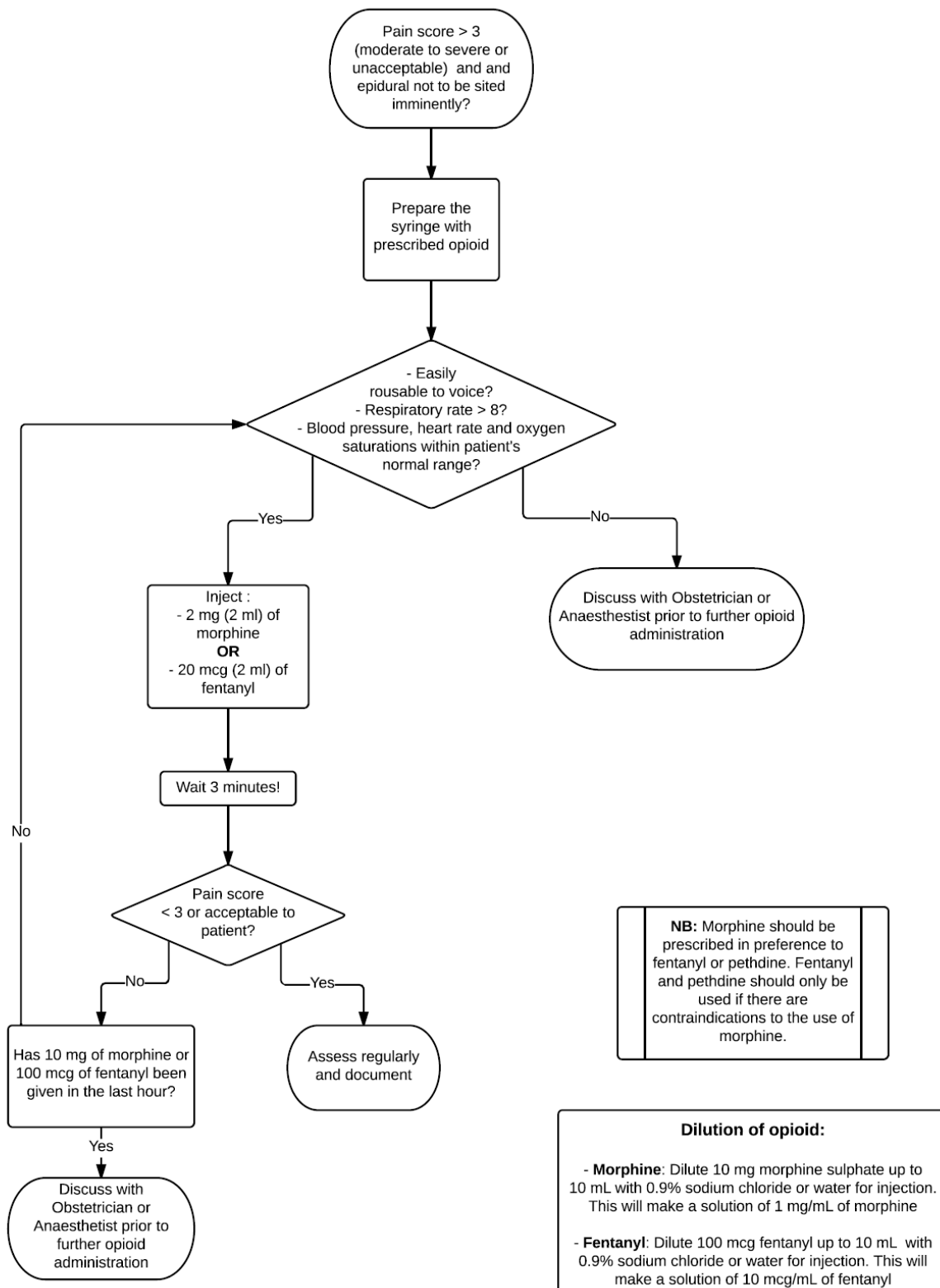
- Opioid should be prescribed on the National Medication Chart
- Prescription should be in accordance with Auckland DHB policy for the prescription and administration of controlled drugs (see 'Medications - Prescribing' policy, and 'Medications - Administration' policy in [associated Auckland DHB documents](#))
- Documentation of the administration must also be in accordance with Auckland DHB policy - include any maternal use in labour on the neonate's clinical record

8. Dilution of opioid

- **Morphine:** Dilute 10 mg morphine sulphate up to 10 mL with sodium chloride 0.9% or water for injection - this will make a solution of morphine 1 mg/mL
- **Fentanyl:** Dilute 100 microgram of fentanyl up to 10 mL with sodium chloride 0.9% or water for injection - this will make a solution of 10 microgram/mL

9. Flowchart

ADHB Intrapartum Intravenous Opioid Protocol Flow Diagram



10. Monitoring of mother

- Monitor maternal and fetal wellbeing prior to and after administration of opioid
- At Auckland DHB midwives should consult with a specialist (obstetrician and/or anaesthetist) if a woman is in significant pain or requiring more than one intrapartum adult dose of opioid in an hour (ie 10 mg of morphine or 100 microgram of fentanyl)
- The following observations should be recorded on the CR5825: Obstetric Patient Observations Chart & MEOWS (see [clinical form](#)):
 - Respiratory rate
 - Oxygen saturations
 - Blood pressure
 - Heart rate
- The following observations should be recorded in the clinical notes and/or partogram:
 - Sedation/rousability of the woman
- Observations should initially be recorded at 5 minute intervals for the first 30 minutes after a dose of opioid. If the initial observations are satisfactory, then they may be continued at 30 minute intervals. If no further doses of opioids are given over the following four hours, standard monitoring intervals can be resumed.
- If there are any concerns regarding side effects or patient observations, a medical review should be sought, particularly if the woman appears overly sedated or difficult to rouse.
- Use of opioid analgesia does not in itself necessitate continuous cardiotocograph (CTG) monitoring in the absence of other risk factors, as per the Auckland DHB fetal surveillance policy.
- Fetal wellbeing must be ascertained prior to and after administration of opioid analgesia to the woman.
- It should be noted that the use of opioids may cause a transient reduction in fetal heart rate variability on the CTG.

11. Management of respiratory depression/reduced level of consciousness

If concerned about woman's observations:

- Call for an urgent medical review
- Rouse the woman and ask her to take deep breaths, administer oxygen at a rate of 15L/min via non-re-breather mask
- If the woman is sleepy but rousable, respiratory rate is less than 8 or oxygen saturations are 90 - 94% consider a small dose of naloxone eg 80 micrograms IV. Dilute 400 micrograms naloxone up to 10 mL with sodium chloride 0.9% - this will make a solution of naloxone 40 micrograms/mL.
- If the woman is hypotensive or has a bradycardia, then she should be placed into full left lateral position and consider administering a fluid bolus

- If the woman is unrousable call an Obstetric Code and an Adult Code Blue

12. Management of a neonate of a mother given intrapartum morphine

For the management of narcotic depression in the newborn, please refer to the [Newborn Services Clinical Guideline](#).

13. Supporting evidence

- Anderson, D. (2011). A review of systemic opioids commonly used for labor pain relief. *Journal of Midwifery & Women's Health*, 56(3), 222-239.
- Chestnut, D. H., Wong, C. A., Tsen, L. C., Kee, W. D. N., Beilin, Y., & Mhyre, J. (2014). 5th Ed. *Chestnut's obstetric anesthesia: principles and practice*. Elsevier Health Sciences. Retrieved from, https://books.google.co.nz/books?id=FMU0AwAAQBAJ&pg=PA67&lpg=PA67&dq=Morphine+pregnancy+F/M+ratio&source=bl&ots=cxYcU_vnho&sig=cF3lwGFhF7qsKEJ2FvQec1UdHpY&hl=en&sa=X&ved=0ahUKEwjchsv8v8DPAhXBHZQKHehHBF8Q6AEIjAD#v=onepage&q=Morphine%20pregnancy%20F%2FM%20ratio&f=false
- Goodson, C., & Martis, R. (2014). Pethidine: to prescribe or not to prescribe? A discussion surrounding the use of pethidine's place in midwifery practice and New Zealand prescribing legislation. *New Zealand College of Midwives Journal*, 49, 21-5.
- Medsafe Data Sheet, Morphine Sulphate Injection. Preparation date 17/10/2014. Accessed via <http://medsafe.govt.nz/>
- Medsafe Data Sheet, DBL Pethidine Hydrochloride Injection. Preparation date 08/03/2015. Accessed via <http://medsafe.govt.nz/>
- Medsafe Data Sheet, Fentanyl Citrate Injection. Preparation date 08/01/2015. Accessed via <http://medsafe.govt.nz/>
- Midwifery Council statement on the scope of practice of the midwife with regard to prescription of controlled drugs. Retrieved from, <https://www.midwiferycouncil.health.nz/sites/default/files/for-midwives/Opiates%20scope%20of%20practice%20with%20guidance%20notes%20290714.pdf>
- New Zealand Society of Anaesthetists (Incorporated): Proposed Amendments to Midwives' and Nurse Practitioners' prescribing of Controlled Drugs, April 2014. Retrieved from, <http://www.anaesthesiasociety.org.nz/wp-content/uploads/2014/08/NZSA-submission-on-proposed-amendments-to-Midwives-and-NP-prescribing-Apr-2014.pdf>
- Northern Neonatal Network (2011). *Neonatal Formulary*. 6th Ed. Oxford: Wiley-Blackwell Publishing.

- Phelps, S. J., Hagemann, T. M., Lee, K. R., & Thompson, A. J. (2013). Pediatric Injectable Drugs, The Teddy Bear Book. 10th Ed. Bethesda: American Society of Health-System Pharmacists.
- Sastry, B. R. (1996). *Placental pharmacology* (Vol. 36). CRC Press. Retrieved from, <https://books.google.co.nz/books?id=orsn0dI0VJ4C&pg=PA81&lpg=PA81&dq=Meperidine+pregnancy+F/M+ratio&source=bl&ots=yfMAKyteFz&sig=dgUvjW0g6vRYVMP8RVWbfMeQTj4&hl=en&sa=X&ved=0ahUKEwiA3u35vsDPAhVFHJQKHTIJAYYQ6AEIITAC#v=onepage&q=Meperidine%20pregnancy%20F%2FM%20ratio&f=false>
- Self-directed learning package for midwives on the prescription of controlled drugs, Midwifery Council of New Zealand. Retrieved from, <file://ahsl6/MAIN/Groups/Everyone/Midwives%20Prescribing%20Controlled%20Drugs/Prescribing%20of%20controlled%20drugs%20learning%20package%20August%202016.pdf>

14. Legislation

- [Medicines Amendments Act 2013](#)
- [Misuse of Drugs Amendment Regulations 2014](#)

15. Associated Auckland DHB documents

- [Entonox™/Nitrous Oxide in Maternity](#)
- [Epidural Analgesia - Adult](#)
- [Fetal Surveillance Policy](#)
- [Medication - Administration](#)
- [Medication - Prescribing](#)
- [Narcotic Depression in the Newborn Infant](#)
- [Opioids Intravenous in Adults](#)
- [Remifentanil Patient Controlled Analgesia \(PCA\) for a Woman in Labour](#)

Clinical Form:

- [CR5825: Obstetric Patient Observation Chart & MEOWS](#)

16. Disclaimer

No guideline can cover all the variations required for specific circumstances. It is the responsibility of the health care practitioners using this Auckland DHB guideline to adapt it for safe use within their own institution, recognise the need for specialist help, and call for it without delay, when an individual patient falls outside of the boundaries of this guideline.

17. Corrections and amendments

The next scheduled review of this document is as per the document classification table (page 1). However, if the reader notices any errors or believes that the document should be reviewed **before** the scheduled date, they should contact the owner or the [Clinical Policy Advisor](#) without delay.