Aneurin Bevan University Health Board

Care of obstetric patients who have received intrathecal or epidural morphine.

N.B. Staff should be discouraged from printing this document. This is to avoid the risk of out of date printed versions of the document. The Intranet should be referred to for the current version of the document.

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1. Introduction/Overview

In 2024 NICE (NG192)[1] updated its guidance surrounding the care of patients who have had a spinal anaesthetic or epidural top-up where a long-acting opiate was used. In ABUHB the current standard long-acting opiate used in spinals or epidural top-ups is morphine.

This update in national guidance specifies the monitoring required following administration of intrathecal or epidural morphine and this document aims to apply this national guidance locally in ABUHB.

Delayed respiratory depression is a very rare but serious risk following a dose of intrathecal or epidural morphine[2]. Observations should be carried out at a specified frequency and duration following a dose of intrathecal or epidural morphine and where patient-controlled analgesia (PCA) is provided.

For all spinals and epidural top-ups, whether a long-acting opiate has been used or not, observations are also carried out to ensure haemodynamic stability and pain management issues are addressed. The motor resolution of spinal anaesthetics and epidurals is also a key element of patient care and Bromage score is used to assess for this resolution of motor power.

The recommendations from NICE require streaming patients into high and low risk pathways for delayed respiratory depression, where long-acting opiate has been used. There is a separate pathway for those patients who have had a spinal or epidural top-up where no long-acting opiate has been used (fentanyl is not classed as a long-acting opiate). The stream which patients enter forms the basis of frequency and duration of observations as well as which environments are suitable for their post operative care.

This guidance provides patient streaming categories compliant with NICE requirements and contains a flow diagram suitable for local adaptation in ABUHB.

2. Statement

We aim to meet the standards highlighted in national guidance[1] to ensure safe care of obstetric patients who have received a spinal anaesthetic or epidural top-up. As there is overlap in care requirements this document also outlines monitoring for patients using a patient-controlled analgesia or patients who have undergone a general anaesthetic.

3. Aims/Purpose

To provide a framework of how to stream patients into risk categories and outline which risk factors lead to a high-risk categorisation.

To outline which observations are required and their frequency as well as which environment is suitable to that patient's care post operatively.

4. Objectives

Align ABUHB practice with the requirements set out in NICE 2024 national guidance[1].

5. Scope

Relevant groups:

Midwifery (including appropriately trained midwifery care assistants/ healthcare support workers undertaking observations)
Anaesthetics
Obstetricians

All patients who have had a spinal anaesthetic or epidural top-up for surgery in obstetrics.

The focus of guidance is on those who have had morphine, but reference is made to neuraxial techniques where no morphine is used and general anaesthesia cases/ patient-controlled analgesia cases for whom the frequency of observations aligns with 2024 NICE guidance[1].

6. Roles and Responsibilities

Post-operative observations will be carried out by registered midwives or delegated to appropriately trained Midwifery Care Assistants / Healthcare support workers. Where observations outside of normal parameters are found, MCAs/HCSWs must escalate this to the allocated registered midwife in a timely manner. Midwives must in turn escalate concerns to the appropriate clinician, in line with MEWS escalation pathway.

Educational resources and workplace visual prompts will be provided by the anaesthetic team.

7. Main Body

The decision of which risk pathway is suitable for patients is made at the WHO sign out from theatre and is the responsibility of the anaesthetist.

The anaesthetist will verbally highlight the risk category for each patient and put a sticker onto the anaesthetic chart to clearly document the pathway the patient requires. These stickers will be colour coded to match the risk category on the flow diagram.

The midwife will copy the pathway indicated from the sticker onto a Badgernet entry (background section of SBAR) when they are in recovery. This will be communicated in handover of care when the patient leave recovery.

Observations for Post Operative Monitoring

Blood pressure, heart rate, respiratory rate, temperature, O_2 saturation, sedation score (AVPU), pain score and Bromage score.

Once full motor power is regained the Bromage score does not require further assessment unless there are clinical or patient concerns about weakness. All the other assessments should be continued throughout the monitoring period.

NB: Bromage score, sedation score and pain score should be added to the patient's Badgernet record under "epidural chart/spinal assessment".

Once the indicated post operative monitoring protocol period is completed, patients move to MEWS monitoring 4 hourly observations. If there are concerns at any point senior review should be sought from medical teams in anaesthetics and obstetrics so management can be implemented which may include adjusting frequency of observations.

If MCCU care is required, this protocol forms a base of observations. Additional observations may be required depending on the indication for MCCU.

Fluid balance and urine output is not referenced in this guidance as there is no change from current practice for fluid balance monitoring.

Below is a process map for this policy. This information and the accompanying information sheet will be available as posters in relevant clinical areas.

Spinal or epidural MORPHINE given for ANY procedure.
AND all patients who have caesarean delivery even without intrathecal/epidural morphine.

ANAESTHETIST: decides risk group at WHO theatre sign out then DOCUMENTS CHOICE with a coloured sticker on anaesthetic chart to define pathway.

MIDWIFE: copies risk pathway onto Badgernet SBAR (background) in recovery. "e.g. GREEN monitoring pathway.

High risk pathway	Low risk pathway
Post op destination after recovery : POSW or MCCU If intrathecal or epidural morphine given AND any of the following: • BMI 40+ at booking • Known obstructive sleep apnoea • Cardiopulmonary or Neurological disease • Magnesium infusion (for any indication) • Chronic opioid use • GA in combination with spinal or epidural opiate including incomplete block.	Post op destination after recovery: POSW or MCCU Patients without a high-risk indicator.

No spinal or epidural morphine used in post op patients who have not had a caesarian section. e.g. retained placenta managed with plain spinal.	Post op destination after recovery: Post natal corridor unless MCCU required Observations: 24 hours of observations as per MEWS minimum 4 hourly. AND Bromage score, 2 hourly until full resolution of block for any spinal or epidural top up.

Recovery
All patients have at least 30 mins in recovery and can be transferred to POSW/MCCU once stable.

What is included in a set of observations on POSW?	Full set of observations = (BP, HR, RR, Temp, Sats, Sedation score (AVPU), Pain score, Bromage score until full motor power regained.)
	Respiratory depression monitoring = ONLY respiratory rate (RR), O2 Sats, Sedation Score (AVPU) Input into Badgernet under "Spinal/epidural assessment" .

Frequency of observations on POSW
If observations are abnormal escalate for medical review. A change in frequency may be requested.

Time on POSW	High Risk	Low risk
Hour 0-2	Full set of obs every 30-min	Full set of obs every 30-min
Hour 2-4	1-hourly full set of obs	1-hourly full set of obs
Hour 4-12	4-hourly full set of obs PLUS 1-hourly Resp depression monitoring (RR, sats and sedation score).	4-hourly full set of obs
Hour 12-24	4-hourly full set of obs	After 12 hours discharge to post-natal corridor for standard MEWS 4-hourly. This can be done without medical review unless midwife or patient concerns.
Hour 24+ on POSW	After 24 hours on POSW, discharge to post-natal corridor for standard MEWS 4-hourly. This can be done without medical review unless midwife or patient concerns.	

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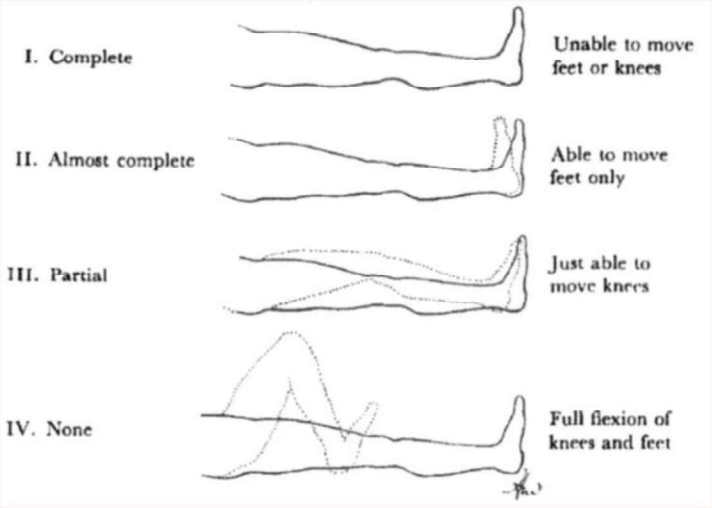
Pain score:
- No pain
- Mild pain
- Moderate pain
- Severe pain
- Excruciating

Sedation score:
A=Alert
V=Responding to voice (notify band 7)
P=Responding to pain (emergency)
U=Unresponsive (emergency)
If not appropriate sleep call for help.

Bromage score:
How much leg strength has the patient got as the spinal/epidural wears off. Once fully recovered bromage is no longer recorded unless patient or staff concerns.
Bromage score is recoded on the epidural chart on badgernet.
If motor power not restored after 6 hours ask for anaesthetic review.



Examples of cariopulmonary and neurological diseases for anaesthetic consideration

COPD, cystic fibrosis, pulmonary hypertension, obesity hypoventilation syndrome, heart failure, stroke, MND, myasthenia.

Special situations

General Anaesthetic
All GA patients should should have 2 hours of observations (HR, RR, BP, O2 sats) every 30 mins and then standard MEWS or spinal protocol if spinal has been given.

PCA
Ensure women and people who have had PCA should have routine hourly monitoring of O2 saturations, respiratory rate, sedation score and pain scores throughout treatment, and for at least 2 hours after last dose of PCA.

Further explanation of the process

Recovery

Minimum of 30 mins in recovery, one to one care, with observations taken every 5-10 mins (blood pressure, heart rate, respiratory rate, O_2 sats, sedation score AVPU, pain score). Once observations are stable in recovery patients can then be moved to their post operative destination and observations would be carried out as per the flow diagram above.

Who is high risk and what does this involve?

Any patient who has had a dose of intrathecal or epidural morphine for any obstetric procedure AND meets one of these criteria would be considered high risk for delayed respiratory depression:

- BMI 40+ at booking
- Known obstructive sleep apnoea
- Cardiopulmonary or neurological disease
- Magnesium infusion (for any indication)
- Chronic opioid use
- Patients who have had a GA in combination with spinal or epidural opiate including incomplete block.

Destination of post operative care is the **Post Operative Support Ward (POSW) or Maternity Critical Care Unit if necessary (MCCU) for high-risk pathway patients** where they should have:

Minimum 24 hours of the post operative monitoring protocol. This group of patients should not step down to post-natal ward until at least 24 hours post operative.

Recovery **All patients have at least 30 mins in recovery and can be transferred to POSW/MCCU once stable.**	
What is included in a set of observations on POSW?	**Full set of observations = (BP, HR, RR, Temp, Sats, Sedation score (AVPU), Pain score, Bromage score until full motor power regained.)**
	Respiratory depression monitoring = ONLY respiratory rate (RR), O2 Sats, Sedation Score (AVPU) Input into Badgernet under "Spinal/epidural assessment" .
Frequency of observations on POSW **If observations are abnormal escalate for medical review. A change in frequency may be requested.**	
Time on POSW	**High Risk**
Hour 0-2	**Full set of obs every 30-min**
Hour 2-4	**1-hourly full set of obs**
Hour 4-12	**4-hourly full set of obs** **PLUS 1-hourly Respiratory depression monitoring (RR, sats and sedation score).**
Hour 12-24	**4-hourly full set of obs**
Hour 24+ on POSW	**After 24 hours on POSW, discharge to post-natal ward for standard MEWS 4-hourly. This can be done without medical review unless midwife or patient concerns.**

This group should have their Bromage motor score assessed every 2 hours until their spinal or epidural top up has worn off and they have full strength back. If this has not happened after 6 hours, the midwife would notify the anaesthetist on labour ward.

Following this 24-hour period patients with normal observations can be stepped down to the post-natal ward without the need for anaesthetic or obstetric review unless suitable to discharge home.

After this 24-hour period, if suitable for discharge home this would not usually involve the anaesthetic team unless there has been an anaesthetic issue requiring follow up but would require obstetric and midwifery input.

Who is low risk and what does this involve?

For any patient who has had spinal or epidural morphine who does not meet any criteria to be considered high-risk follow the low-risk pathway AND any patient who has had Caesarean delivery, even if without any spinal or epidural morphine.

Destination of post operative care is the **POSW or MCCU for low-risk pathway patients** where they should have:

12 hours of the post operative monitoring protocol. These patients should not step down to post-natal ward until at least 12 hours post operative.

Recovery **All patients have at least 30 mins in recovery and can be transferred to POSW/MCCU once stable.**	
What is included in a set of observations on POSW?	**Full set of observations = (BP, HR, RR, Temp, Sats, Sedation score (AVPU), Pain score, Bromage score until full motor power regained.)**
Frequency of observations on POSW **If observations are abnormal escalate for medical review. A change in frequency may be requested.**	
Time on POSW	**Low Risk**
Hour 0-2	**Full set of obs every 30-min**
Hour 2-4	**1-hourly full set of obs**
Hour 4-12	**4-hourly full set of obs**
Hour 12+	**After 12 hours discharge to post-natal ward for standard MEWS 4-hourly. This can be done without medical review unless midwife or patient concerns.**

This group should have their Bromage motor score assessed every 2 hours until their spinal or epidural top up has worn off and they have full strength back. If this has not happened after 6 hours, the midwife would notify the anaesthetist on labour ward.

For patients stepped down to post-natal ward 4 hourly observations as per MEWS should continue unless escalation indicated from MEWS.

It is not expected that obstetric patients who have had surgery would go home until 24 hours after their operation.

Discharge to home is undertaken by the obstetric and midwifery teams and would not usually involve the anaesthetic team unless there has been an anaesthetic issue requiring follow up.

If the patient has had a spinal or epidural top up WITHOUT morphine for a procedure which is NOT a Caesarean delivery

Destination of post operative care after recovery is the **post-natal ward unless MCCU is indicated.**

This group should have their Bromage motor score assessed every 2 hours until their spinal or epidural top up has worn off and they have full strength back. If this has not happened after 6 hours, the midwife would notify the anaesthetist on labour ward.

These patients should have 4 hourly observations on the post-natal ward (RR, HR, BP, O2 sats and Temp) as per MEWS for 24 hours post operatively unless otherwise specified.

If MCCU level of care is required defer to MCCU observations frequency.

Discharge to home is undertaken by the obstetric and midwifery teams and would not usually involve the anaesthetic team unless there has been an anaesthetic issue requiring follow up.

Special situations

General Anaesthetic (GA)

All GA patients should have 2 hours of observations (HR, RR, BP, O2 sats) every 30 mins and then standard MEWS or **high-risk RED protocol** if spinal has been given as well as GA.

PCA

Ensure patients who have had PCA should have **1 hourly monitoring** of O2 saturations, respiratory rate, score (AVPU) and pain scores throughout treatment, and for at least 2 hours after last dose of PCA. Bromage would only be needed if a patient has had a spinal or epidural.

How do we know which pathway the patient is in?

The decision is made at the WHO sign out from theatre and is the responsibility of the anaesthetist.

The anaesthetist would state this verbally at the WHO sign out and put a sticker onto the anaesthetic chart to clearly document the pathway the patient requires.

The midwife copies the pathway indicated onto a Badgernet entry when they are in recovery and includes this in their SBAR handover to which ever area the patient is going post operatively.

8. Resources

Appropriate staff information poster will be provided in relevant areas.

9. Training

Internal training and information dissemination will be provided by the project lead and lead obstetric anaesthetist within the anaesthetic staff group.

The project lead and lead obstetric anaesthetist will provide training for the practice education midwives and other appropriately trained staff for labour ward. Cascade training to midwives will be provided. If MCA/ HCSW staff are expected to contribute to observations taken, then training will cascade to include these groups.

10. Implementation

Teaching will be provided via in person small group updates and narrated power point as well as posters with summary information.

Withing three months following approval of the document is the planned time frame for implementation.

11. Further Information Clinical Documents

Evidence is based on national guidance provided by NICE (NG192) [1] and the OAA[3].

12. Equality

Observations required in this policy are based on national guidance and care does not vary based on any protected characteristic. There has not been a formal equality assessment carried out as this guidance does not impact on equality.

13. Audit

Internal audit of adherence to this guidance will be carried out.

14. Review

3 yearly review is expected for this guidance.

15. References

1. National Institute for Health and Care Excellence (2021). *Caesarean Birth NICE Guideline*. [online] Available at: https://www.nice.org.uk/guidance/ng192/resources/caesarean-birth-pdf-66142078788805.

2. OAA commentary on alternatives to intrathecal and epidural diamorphine for caesarean section analgesia. (n.d.). Available at: https://www.oaa-anaes.ac.uk/downloads/publications/oaa-commentary-on-alternatives-to-intrathecal-and-epidural-diamorphine-.pdf.