Frimley Health
NHS Foundation Trust

Recovering Mothers after Operative Procedures in Theatre

Key Points

- Mothers should receive a safe and standardised recovery process, where appropriate help is sought when required.

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Abbreviations

AES	Anti-embolism stockings
BP	Blood pressure
IV	Intravenous
LMWH	Low molecular weight heparin
MOH	Massive obstetric haemorrhage
PACU	Post-Anaesthetic Care Unit
PCA	Patient-controlled analgesia
RR	Respiratory rate
VTE	Venous thromboembolism

Contents

1. Objective of this Guideline

To provide the multidisciplinary team with guidance in the care of women after an operative procedure and following an anaesthetic, in line with the Association of Anaesthetists of Great Britain and Ireland (AAGBI), Royal College of Obstetricians and Gynaecologists (RCOG) and the Obstetric Anaesthetic Association (OAA).

The majority of women having operative procedures in maternity do so under regional anaesthesia. The priorities in post-operative care and observations for these women will be to ascertain normal respiration, O2 saturations, and to ensure that the woman is alert, responsive and normotensive, that the level of block for women who have had a spinal and/or epidural anaesthesia is normal and decreasing post-surgery and to detect headaches, dizziness, nausea and vomiting.

2. Principles

This guideline applies to all Obstetric, Anaesthetic, Nursing and Midwifery staff involved in the care of women recovering from an operation and anaesthesia. After general, epidural, or spinal anaesthesia, all women should be recovered in a specially designed area that complies with the recommendations in this guideline. These women require a high standard of post anaesthetic and operative care regardless of the type of anaesthetic. The staff involved should be appropriately trained and be able to receive immediate assistance from the Anaesthetist if required.

3. Elective Cases

All elective theatre cases should be recovered in the Post-Anaesthetic Care Unit (PACU), until suitable for transfer to Ward 22 (Wexham Park Hospital) or Labour ward / Postnatal ward (Frimley Park Hospital). Post-operative monitoring should continue after discharge from PACU.

4. Emergency Cases

Emergency cases will be done on the Labour Ward (LW) at Wexham Park or Main theatres at Frimley Park; At WPH the Anaesthetists and ODP are responsible for recovering the woman who will remain in theatre until they are suitable for transfer to PACU or a LW room. At FPH the woman will be recovered in PACU as for elective cases. At WPH if recovered on LW, then both the baby and the partner can be present. If the woman is transferred to PACU, then the partner cannot attend. Midwifery presence is not necessary in the PACU. If there is a baby present, then a midwife or MCA should be present to ensure the clinical wellbeing of the baby. At FPH both baby and partner can be present in PACU unless the clinical condition of the woman dictates otherwise (for example immediately after general anaesthetic).

5. Transfer from Theatre to the Recovery Area

Equipment required for recovery:
The following equipment is available for the care of a woman following anaesthesia:

- Power supply
- Oxygen and suction equipment
- Access to ventilation and resuscitation equipment
- BP machine
- Pulse oximeter
- Thermometer
- Cardiac Monitor
- IV infusion devices to include IV pressure bag and IV fluid warmer
- Range of emergency medication
- An emergency call system, accessed by dialling 2222

6. Criteria for Transfer to the Recovery Area

The Anaesthetist and Obstetrician must ensure that the woman is awake and physiologically and haemodynamically stable before transfer to PACU or LW. The Anaesthetist attending in theatre must accompany the midwife and theatre nurse during transfer; the whole team is responsible for ensuring that the woman is transferred safely. The Anaesthetist and attending midwife must give a verbal and written handover of care to the nurse midwife in the designated recovery area.

If there are medical concerns, e.g., significant MOH, unstable mother, developing pre-eclampsia, the woman should be transferred to PACU, and or main HDU/ITU depending on her status. This would be assessed by Outreach/ ITU team.

7. General Anaesthetic

Any woman who has had a general anaesthetic should be transferred to PACU for continuous observation by a theatre recovery nurse for a minimum of 30mins. This will vary depending on their recovery and until the woman has airway control and cardio-respiratory stability. Once this has been achieved and the woman is able to communicate, monitoring will depend on their clinical status. Standard practice is to monitor the woman every 30 minutes for two hours, but if the observations become unstable or there are other risk factors for deterioration present, the woman should be medically reviewed by the obstetrician and / or anaesthetist and it may be necessary to increase the frequency and duration of monitoring.

8. The Recovery Area/ Labour Ward

Recording Observations (BP, pulse, RR, Oxygen Saturations, Temperature, Alertness):
The woman's observations should be recorded on the Obstetric Flowsheet in EPIC **every 10 minutes for at least the first 30 minutes whilst in PACU/LW from theatre. There after the observations would follow:**

- Every 30 mins for 2 hrs
- Every 60 minutes for the following 2 hours (until 4 hrs following PN ward admission)
- Every 4 hrs thereafter.

All observations should be validated on the system for the MEOWS score to reflect. MEOWS should be acceptable prior to discharge to maternity ward.
The patient can safely be moved to Ward 22 / Postnatal ward after half an hour assuming the recovery and midwifery staff have no concerns.

For a woman who has had spinal or epidural fentanyl, morphine or diamorphine but is not at increased risk of respiratory depression, routine observations are required.

In a woman who has had spinal or epidural fentanyl, morphine or diamorphine and is at increased risk of respiratory depression, e.g., diagnosed obstructive sleep apnoea, additional monitoring should be undertaken for 12 hours.

Observations should be monitored and documented more frequently if the patient's condition deteriorates. Any deviation from the normal should be reported to the Anaesthetist/ Obstetrician/ Senior Midwife.

If the oxygen saturation is less than 94%, alert the Anaesthetist and commence O2 therapy with a Hudson mask; ensure that the O2 prescription is completed.

Ensure that the temperature is within normal limits on return from theatre, and thereafter take 4hrly. If pyrexial (>37.6C) or hypothermic (<35.0C), ensure Anaesthetic or Obstetric review.

8.1 Blood Loss and Fundal Height:

This should be checked in the immediate recovery area and then every 15mins for the first hour. Fundal height, lochia and wound dressing should be written in the notes for the first 12hrs.

8.2 Analgesia

The attending Nurse or Midwife must monitor pain control and give prescribed analgesia as necessary. When analgesia is inadequate, refer to the Anaesthetist.

If post-operative intravenous opiate analgesia is given, the patient must be kept in the recovery area for a further 30mins. Any drugs administered in the recovery period must be documented on the prescription chart and the Midwife in attendance at the birth should also highlight this on the postnatal handover page.

For women who have a patient-controlled analgesia (PCA) pump, there should be routine hourly monitoring of respiratory rate, sedation and pain scores throughout treatment and for at least 4hrs after discontinuation of treatment. The usage of the pump should be recorded. These patients should be cared for on LW, and not on Ward 22/postnatal ward.

8.3 Fluid Balance

Further intravenous therapy should be administered as prescribed and recorded on the fluid balance chart. The cannulation site should be checked 4hrly and record findings on the VIP sheet.

Monitor and record urinary output. Report any new haematuria to the Obstetrician / Anaesthetist.

8.4 Blood Transfusion

If blood or blood products have been given, the Blood Transfusion Record must be completed.

8.5 Operative Site

Observe the operative site, drains, lochia and uterine contractility every 15mins. This should be done more frequently if the patient's condition dictates; it should be documented in the patient's notes. Check woman's abdominal wound dressing and secure and monitor drainage from any drains in place. Re-check the maternity pad prior to discharge. Document the measured blood loss (MBL) on the I&O Flowsheet. If EBL is 1.5L or above, ensure to liaise with the obstetric team and confirm if the patient will need to go back to Labour Ward for continued monitoring.

8.6 Anti-Embolism Care

The patient should be wearing AES which have been prescribed on the prescription chart. LMWH should be prescribed on the prescription chart, if risk stratified to moderate or high risk for postnatal VTE. It should be prescribed in the correct dose for the weight of the patient.

Staff and the patient should be vigilant of respiratory difficulty or pain in the chest or legs (see guideline for Thromboprophylaxis and the Treatment of Venous Thromboembolism in Pregnancy and the Puerperium). Whilst recovering from the effects of regional or general anaesthesia, women should be encouraged to change their position at least every 2hrs, in order to maintain pressure areas and prevent pressure ulcers. Whilst not fully mobile, all women should be taught and encouraged to undertake regular deep breathing and leg exercises (flexion/ extension and rotation of the ankles) to assist in the prevention of venous stasis. Women should be advised against crossing their legs or ankles, as this can restrict blood supply and cause swelling.

Following caesarean section or operative vaginal delivery, the midwife or an appropriately trained maternity care assistant (MCA), is responsible for the baby through their stay in PACU. The midwife remains accountable for the care of the baby. Following other procedures, e.g., manual removal of placenta, the baby can join its mother in PACU. It is not necessary to have a midwife or MCA if the midwife has assessed the baby as being fit to be in the care of the woman's birth partner.

9. Criteria for Discharge from PACU

1. The woman is fully conscious without excessive stimulation, able to maintain a clear airway and exhibits protective airway reflexes; respiration and oxygenation are within suitable/normal limits. Oxygen should be prescribed if appropriate.

2. The cardiovascular system is stable with no unexplained cardiac irregularity or persistent bleeding. Peripheral perfusion should be adequate. Intravenous fluid should be prescribed if appropriate.

3. Temperature should be 36.5°C or above on discharge. Ensure to confirm with the obstetric team the need for Septic Screening if the temperature is 38°C and above.

4. Pain and emesis should be controlled, and suitable analgesic and anti-emetic regimens prescribed. Explain to the woman how spinal/epidural block will "wear off" and advise re further analgesia on ward. If the woman has Patient Controlled Analgesia (PCA) ensure she is comfortable and understands how to self-administer morphine from PCA machine. Ensure that the midwifery staff on the postnatal ward are competent to look after patients with PCA.

5. The block must be at or below T4 to touch before discharge. Check the spinal or epidural site for bleeding, oozing or haematoma and ensure to record properly in the spinal assessment tab in EPIC.

6. Ensure urinary catheter is secure and draining freely.

7. Ensure that VTE prophylaxis is prescribed in a timely manner if required.

8. The anaesthetist has documented the time of the spinal injection or the removal of the epidural on his EPIC Notes. EPIC should alert the Team at 4hr post epidural removal or insertion of spinal to be able to straight leg raise; please contact the Anaesthetic team urgently if the lady is unable to raise each leg straight in the air at this time.

9. Syringes and fluids with additives should be labelled and should be checked on all handovers.

10. Discharge from the PACU is the responsibility of the anaesthetist but the adoption of strict criteria allows this to be delegated to PACU staff. If the discharge criteria are not achieved, the patient should remain in the PACU and the anaesthetist informed.

11. After medical assessment, patients who do not fulfil the discharge criteria may require extended recovery care. This should be facilitated in conjunction with the nurse in charge of PACU and the labour ward coordinator. An extended stay form and care plan must be completed and documented by the anaesthetist in EPIC.

12. If the patient is deemed to require critical care support, refer to the admission of obstetric patients to critical care guideline.

10. Handing over to Ward staff

Patients should be transferred to the ward in adherence with the Trust Intrahospital Transfer guideline, accompanied by a trained member of staff and a porter. The PACU nurse must ensure that full clinical details are relayed to the midwife with particular emphasis on syringe pump settings. On admission to the ward the midwife must check the patient's observations, wounds, drains, lines and maternity pad and record on EPIC. This is to ensure the patient has remained stable during transfer.

11. References

The Association of Anaesthetists of Great Britain and Ireland. Recommendations for Standards of Monitoring During Anaesthesia and Recovery (edition). London AAGBI. www.aagbi.org.uk

The Association of Anaesthetists of Great Britain and Ireland. Immediate Post Anaesthetic Recovery (edition). London AAGBI. www.aagbi.org.uk

The Association of Anaesthetists of Great Britain and Ireland. Obstetric Anaesthetic Association. OAA/AAGBI Guidelines for obstetric Anaesthetic Services. www.aagbi.org.uk and www.oaa-anaes.ac.uk

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Version History

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1.0	March 2024	Nimisha Patel, Consultant Anaesthetist	Final	First cross site version, approved at Cross Site Obstetrics Clinical Governance Meeting, 17 January 2024 and Anaesthetic Clinical Governance Meeting, 20 March 2024

Related Documents

Document Type	Document Name
Guideline	Thromboprophylaxis and the Treatment of Venous Thromboembolism in Pregnancy and the Puerperium
Guideline	Caesarean Section