Admission to AOU (Acute Observation Unit) Guideline

Admission Criteria and Guidance on Care of Women in the Maternity Acute Observation Unit

Enhanced Maternal Care (EMC) is an intermediate level of care for pregnant or postpartum women where a higher level of observation, monitoring and interventions can be provided than on a ward, but not requiring high dependency care / organ support. There will be a focus on closer monitoring, rapid recognition of deterioration via Maternity Early Warning Scores (MEWS), and specialized skills to prevent escalation to critical care, involving integrated maternity / critical care teams, specific training to provide timely, expert support.

Christchurch Women's Hospital has a designated area in Birthing Suite to provide enhanced maternal care with two beds, and with the possibility to flex using other rooms on Birthing Suite. Some admissions to the Acute Observation Unit (AOU) may be predicted in the antenatal period and some will be more emergent. This document provides guidance on the conditions that may be managed in the AOU, the multidisciplinary team (MDT) and equipment that will be required.

Abbreviations

AOU	Acute Observation Unit
CMM	Clinical Midwife Manager
CPAP	Continuous Positive Airway Pressure
CVAD	Central Venous Access Device
DIC	Disseminated Intravascular Coagulation
DKA	Diabetic Ketoacidosis
ECG	Electrocardiogram
EMC	Enhanced Maternal Care
GE	General Electrical (Brand name)
HCS	Health Connect South
ICU	Intensive Care Unit
IV	Intravenous
LMC	Lead Maternity Carer
LSCS	Lower Segment Caesarean Section
MDT	Multidisciplinary Team
MEWS	Maternity Early Warning Score
NEWS	Newborn Early Warning Score
NICU	Neonatal Intensive Care Unit
NNP	Neonatal Nurse Practitioner
NOC	Newborn Observation Chart
O2	Oxygen

OSA	Obstructive Sleep Apnoea
PICC line	Peripherally Inserted Central Catheter
RM	Registered Midwife
RN	Registered Nurse
RR	Respiration Rate
SaO2	Arterial Oxygen Saturation
SMO	Senior Medical Officer
VRM	Variance Response Management

Purpose of AOU

To provide a safe place to monitor and manage women who are sick or at risk of deterioration antenatally or postpartum.

The AOU is located within Birthing Suite to allow multi-professional care including Neonatal, and Anaesthetics, and provide rapid access to Birthing Suite theatres.

There will be clear escalation pathways to higher level care – Intensive Care Unit (ICU), Cardiology or Interventional Radiology as required.

AOU will be family friendly enabling women, their babies if well, and family supports to be involved in the care and patient journey.

Governance over AOU is required with good data collection, audit and morbidity and mortality review to allow service improvements and improved patient outcomes.

Women who may require AOU:

AOU is a place for women in the antenatal or postpartum period who require more frequent monitoring or are at risk of deterioration.

There are two groups of patients where AOU will be the best place for care.

Women who require a higher level of observation, monitoring and care due to their underlying medical illnesses identified in the antenatal period. These women should have multidisciplinary discussion and care planning in the antenatal period. These plans need to be clearly documented on Health Connect South (HCS), and clearly communicated to all involved. To communicate in advance with ICU please contact the ICU Outreach Senior Medical Officer (SMO) via switch. This will enable the ICU team to book the patient on a future date (if known) or track the patient with a variable admission date.

Women who have an unanticipated deterioration or new Obstetric complications. **In these cases:**

AOU admission to be considered when there is acute illness or unstable chronic disease **AND**:

- MEWS (5 or higher)
- Observations (Obs) are required more frequently than 4-hourly
- Women require 1:1 or 1:2 enhanced maternal care due to their medical or obstetric needs
- Women with moderate to severe Obstructed Sleep Apnoea (OSA) or STOP-BANG score = or > 5 as determine by an Anaesthetist (Appendix 1 Stop-Bang Questionnaire for OSA Screening)
- Women who have recently been stepped down from ICU.

Types of conditions that are likely to be admitted to AOU:

This list is not exhaustive. All admissions will be discussed and agreed by the on call Obstetric SMO, On call Anaesthetist, Clinical Midwife Manager (CMM) on shift and consideration of the need for ICU Outreach review.

1. Pre-eclampsia- deteriorating, requiring Magnesium Sulfate ($MgSO_4$), uncontrolled hypertension and / or requiring Intravenous (IV) antihypertensives
2. Postpartum or antepartum haemorrhage 1200mls or more **and / or** some signs or symptoms of instability, anaemia or requiring ongoing monitoring for bleeding. This may include women with a Bakri balloon or postop from a B-Lynch suture or peripartum hysterectomy
3. Sepsis- until stable and clear source found and treatment shown to be effective
4. Complex known cardiac conditions requiring increased monitoring in conjunction with a clear cardiology and / or Obstetric medicine plan
5. Complex medical conditions at risk of deterioration if not well managed such as pre-existing renal disease
6. Women deemed at risk with sleep disordered breathing (OSA).

At any time, these women become more unstable or have observation parameters outside what can be managed on the Birthing Suite please:

- Follow the usual escalation pathways as per MEWS.
- Notify the On Call Obstetric SMO.
- Refer to ICU Outreach if appropriate.

Conditions where AOU may not be the best place of care:

- Women who have an oxygen requirement outside normal parameters, please consider referral to ICU Outreach.
- Women who have an oxygen requirement outside usual management e.g.: home Continuous Positive Airway Pressure (CPAP), please refer to ICU Outreach.
- Intubation outside of theatre setting
- Women requiring cardiovascular support with vasopressors / inotropes beyond the usual requirement post spinal anaesthetic.
- Renal failure requiring support (women with known pre-existing renal dysfunction should have a MDT Care plan made antenatally)
- Diabetes Ketoacidosis (DKA), please follow the DKA guidelines and have a multidisciplinary consultation around best place of care.
- Coagulopathy / Disseminated intravascular Coagulation (DIC) requiring on-going blood products beyond theatre.

These women will require acute consultation with ICU Outreach or the medical speciality that is most appropriate by the on-call team. SMO to SMO communication is best in these situations.

The Birthing Suite CMM should ensure patients in AOU or maternity patients cared for outside of maternity services (e.g.: ICU) receive adequate level of midwifery / maternity nursing care. In some clinical situations, it might involve sending a midwife to another ward outside of maternity services. If the Birthing Suite current staffing is not sufficient to provide the level of care requested, the Birthing Suite CMM should escalate their needs through the Variance Response Management (VRM) system and enquire support from the Birthing Suite Midwife Manager and Obstetric Lead during work hours or from the on-call manager out of hours.

If adequate staffing for AOU is not achievable, please raise a Safety 1st Safe Staffing Submission Form.

Multidisciplinary care

Women in AOU will be cared for by a multidisciplinary team composed of but not limited to:

On Call Obstetric SMO
On Call Obstetric Registrar
On Call Anaesthetic SMO / Registrar
Clinical Midwife Manager
Core Midwives and Nurses with appropriate training and skills to work in AOU
ICU Outreach team
Obstetric Physician
Physiotherapists
Pharmacists
Lactation Consultants
Neonatal Intensive Care Unit (NICU) Registrar / Neonatal Nurse Practitioner (NNP)
Dieticians
Maternal Mental Health team / Psychologists
Other medical specialities as dictated by the need and condition

At least one daily ward round will be multidisciplinary and ideally in the morning as soon after handover as practicable. The Birthing Suite CMM and the Midwife / Nurse currently caring for the woman should be included into the ward round. The plan for the day will be clearly documented on AOU Obstetric Care Plan on Cortex, including the frequency of observations, the level of care (1:1 or 1:2) and the next review time. This plan will be communicated with the woman, her family and her Lead Maternity Carer (LMC).

Midwives and Nurses working in AOU will document their care on the AOU Midwife / Nurse care plan on Cortex.

Patients admitted to AOU are at increased risk of skin injury due to acute illness, reduced activity and mobility. They are also likely to have additional risk factors such as oedema, moisture associated with lochia, and pre-existing risk factors such as obesity and diabetes. A Braden Scale assessment must be completed on admission and repeated each shift on the Maternity Acute 24-hour Observation Chart.

As a default, the On Call Obstetric SMO is the responsible clinician, unless specifically documented.

Midwives and Nurses working in AOU will be appropriately trained to provide complex care. They will be proficient in the use of equipment specific to this area such as:

- General Electrical (GE) HealthCare Carescape monitor
- Electrocardiogram (ECG)
- Enhanced IV access, peripherally inserted central catheter (PICC) lines
- High-flow oxygen therapy such as AirVo.

They will be confident in:

- blood result interpretations such as arterial gas
- administration of more complex medication such as heparin infusion.

They will attend AOU education as well as complete the relevant online education on HealthLearn.

Neonates

Lactation is a time-sensitive physiological process, and care in the first hours and days after birth can significantly influence long-term breastfeeding. For women with anticipated AOU or ICU-level care, infant feeding goals should be discussed and clearly documented antenatally as part of the multidisciplinary care planning. The feeding plan should include expressing and supplementation consents.

Where clinically appropriate, care should actively support early and on-going skin-to-skin contact, rooming-in, responsive feeding and mother's own milk as optimal nutrition for her newborn.

Maternal morbidity can increase the risks of:

- delayed secretory activation (Lactogenesis II)
- separation
- supplementation
- feeding challenges.

Aim to express 8 times per 24 hours with a maximum interval of 5 hours.

Timely consultation with a Lactation Consultant is recommended.

Where the mother is unable to participate fully in feeding care, her nominated support person should be included in infant feeding discussions, milk handling education and decision making in line with documented consent and maternal preferences.

All babies of women admitted to the AOU need monitoring and recording of feeding and output, as well as observation monitoring as per Newborn Observation Chart (NOC) / Newborn Early Warning Score (NEWS). Baby will still need the usual 12-24h Newborn check. Please let the Neonatal team know if the baby needs a Neonatal check as they do not appear on their usual lists.

Normal criteria for neonatal support remains and midwives / nurses need to ensure that the baby is reviewed if required. When a baby is in NICU, the midwife / nurse should aim to facilitate visits if maternal condition allows. The midwife / nurse may need to stay with the woman for the duration of the visit, unless clear alternative arrangements have been communicated and agreed to by all staff involved. Alternatively, if the woman is too unwell to go to NICU, please consider bringing baby to AOU with the support of NICU staff.

Discharge from AOU

When the woman is deemed well enough for the antenatal or postnatal ward level of care, a clear discharge plan from AOU needs to be documented on the AOU Obstetric Care Plan on Cortex. It will include the events in AOU, the level of care ongoing and any follow up required including consideration of He Iho Ariki referral (Birth Afterthoughts) and plans for following pregnancies. LMC should be notified.

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Te Toka Tumai Auckland. (2019). *Admission to the Maternity Complex Care Area* [Clinical guideline]. Admission to Maternity Complex Care Area (MCCA)

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Appendix 1

Post LSCS women appropriate care location when oxygen therapy is required

Patient type	No OSA risks	Diagnosed moderate or severe OSA with or without home CPAP	Suspected moderate and severe OSA as define by a STOP-BANG score of 5 or greater	Moderate or Severe OSA needed CPAP **for the first time**
Oxygen administration	nasal prongs < = 3L	Nasal prongs Airvo Patient led CPAP	Nasal prongs Airvo Patient led CPAP	CPAP
Location of Care	Maternity	AOU	AOU	ICU
Observations regime	Half hourly for the 2 hours, then 4 hourly + spinal obs (RR + O2) hourly for 12h	Half hourly for the 2 hours, then 4 hourly + spinal obs (RR + O2) hourly for 12h **+ continuous stat monitoring for 20h post PACU**	Half hourly for the 2 hours, then 4 hourly + spinal obs (RR + O2) hourly for 12h **+ continuous stat monitoring for 20h post PACU**	
Model of care	Routine post-natal care	1 to 2 care **with a RN/RM present at all times**	1 to 2 care **with a RN/RM present at all times**	

How do I act when the woman's saturation drops during her sleep?

We acknowledge, it can be tricky to get the balance right between patient safety and allowing some, much required, rest.

We should intervene and rouse the woman if the Arterial Oxygen Saturations (SaO2) were to hit 90%. Any lower than this and she is likely to desaturate much more rapidly due to the way oxygen is carried by the blood.

Hopefully most of the time women will be rousing without our input at or before this level whilst it will be unlikely that harm will come from a short period of SaO2 at this level.

Stop-Bang Questionnaire for OSA Screening

<table>
<tr><th colspan="3">If the patient meets two or more of the following criteria, a STOP-BANG questionnaire should be done.</th></tr>
<tr><td rowspan="4">• Snoring
• Witnessed apnoea
• Choking sensation which causes patient to wake from sleep
• Two or more anti-hypertensives
• BMI >30
Or any patient in whom there is a suspicion of SDB based on clinical judgement.</td><td>S</td><td>When sleeping, do you SNORE loud enough to be heard through closed doors or does your partner elbow you for snoring.</td></tr>
<tr><td>T</td><td>During the day: Do you often feel TIRED, sleepy, fatigued or fall asleep while driving or talking to someone.</td></tr>
<tr><td>O</td><td>When you are asleep: Has anyone OBSERVED you stop breathing, choke or gasp.</td></tr>
<tr><td>P</td><td>Do you have, or are you being treated for high BLOOD PRESSURE.</td></tr>
<tr><td rowspan="5">* Further simple investigations include:
CBC
Renal Function
HbA1c
Venous bicarbonate >27 should prompt consideration of obesity hypoventilation syndrome
ECG – looking for arrythmias or right heart strain</td><td>B</td><td>Is your BMI greater than 35.</td></tr>
<tr><td>A</td><td>Are you older than 50 years of AGE.</td></tr>
<tr><td>N</td><td>Is your NECK measurement bigger than 40cm.</td></tr>
<tr><td>G</td><td>GENDER – Are you male.</td></tr>
<tr><td colspan="2">A STOP-BANG score of >5* indicates increased probability of moderate to severe OSA.</td></tr>
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