CLASSIFICATION AND COMMUNICATION FOR CAESAREAN SECTION

PURPOSE

The purpose of this guideline is to outline the principles of multi-disciplinary communication in Birthing Suite which underpin the smooth, safe and rapid transition to Caesarean Section when indicated in Christchurch Women's Hospital.

BACKGROUND

Communication is often highlighted as an area for improvement in obstetric practice.[1] In the setting of interventions, particularly emergency Caesarean Section, excellent communication is central to effective management and avoidance of unnecessary risk to the woman and her baby.

The time taken for a patient to reach the operating theatre is a critical predictor of the decision to delivery interval. Such delay can be minimised by excellent communication both before and after decision making.[2]

TEAM WORK

The caesarean section team comprises many disciplines. The importance of forward planning and senior involvement cannot be over emphasised. In many cases risk factors are readily identified in the antenatal period well before labour. In such cases a clear and coherent management plan for labour should be clearly documented.

Once in Birthing Suite it is recommended that team work is enhanced by multi-disciplinary involvement at ward rounds. This, and ongoing regular dialogue between key disciplines, is required to identify those cases at high risk of intervention. Thus appropriate pre-emption will minimise the necessary steps in the event of an emergency.

PARTNERSHIP

In the event of an emergency the purpose of the classification system is to confer an immediate and unequivocal signal to all team members with respect to the degree of urgency.

The decision for mode and urgency of delivery is the responsibility of the most senior obstetrician available. It is not the intention of the classification system to determine the mode of anaesthetic. Conversely, the choice of anaesthetic must not be interpreted as a reflection of the urgency of the situation. The decision for mode of anaesthetic is the responsibility of the anaesthetist. It is possible that the most urgent category of caesarean section may be accomplished with a regional anaesthetic.

On making the decision, it is expected that the obstetrician will immediately liaise with the anaesthetist on call to summarise the clinical situation.

In many cases the anaesthetist will wish to assess the woman with the obstetrician before transfer to theatre in order to formulate the most expedient plan for delivery.

MINIMISE DELAY

Once a decision to deliver has been made, delivery should be carried out with urgency appropriate to the situation. This will take into account the safety of the woman and the wellbeing of her baby. The aim is the shortest safely achievable decision to delivery interval.

No 'target' time frame has been quoted for Category 1 and Category 2 caesarean sections.

Most delays between decision and delivery result from delays in transfer from the birthing suite room to the operating theatre. For Category 1 and Category 2 caesarean sections it is the responsibility of all members of the team to ensure rapid transfer to theatre once a plan has been made.

Delay can be minimised through clearly identifying the roles and responsibilities of health care practitioners to ensure tasks are performed concurrently whilst preparing for caesarean section. This process should be streamlined to omit steps which are not essential for safety.

PROCEDURE

When there is a need for caesarean section the obstetric registrar/obstetrician will determine the clinical urgency and advise the Associate Clinical Midwife Manager (ACMM) for birthing suite. The obstetrician will then inform the duty obstetric anaesthetist and provide a clinical summary.

The on call SMO is to be informed of all transfers to theatre – see Registrar Supervision Guideline (GLM0019).

The Birthing Suite ACMM activates a Category 1 caesarean page which alerts Category 1 caesarean section team (see Appendix C for constitution of team). For category 2 and 3 the Birthing Suite ACMM calls the theatre team and neonatal team (see Appendix A).

CALL PROCESS

The call process is outlined in Appendix A.

CATEGORIES

The urgency will be classified according to the following categories:

Category 1: Urgent caesarean section with immediate threat to life of woman or fetus.
Category 2: Maternal or fetal compromise requiring rapid delivery.
Category 3: Maternal or fetal compromise requiring early delivery.
Category 4: Delivery at a time to suit maternity services and the woman.

The category of caesarean section will be clearly indicated on the theatre suite wall.

For Category 1 caesarean sections the aim is to deliver with minimum delay. The team should liaise and mobilise as quickly as possible to facilitate delivery. All non-essential steps which might delay transfer of the woman to the obstetric theatre should be removed.

The categorisation and therefore urgency may be upgraded at any time to Category 1 should new concerns arise:

- If this occurs prior to the woman being transferred to theatre, the birthing suite ACMM activates the Category 1 page.
- If the upgrade occurs in theatre, the change in classification is communicated verbally to the team present by the obstetric team. The red Emergency bell is to be pressed by the Midwife so the ACMM is alerted to the developing situation who then activates the Category 1 page and requests the Ward Clerk call the Neonatal SMO to attend.

In the event of a Category 1 being downgraded to another category the obstetric team communicates the change in category to the neonatal team who will contact the on call Neonatal SMO to discuss whether they still need to attend.

For Category 2 caesarean sections the aim is to deliver rapidly. Whilst awaiting delivery close surveillance of mother and baby must continue. The categorisation may be upgraded at any time should new concerns arise.

Whilst awaiting delivery close surveillance of mother and baby must continue. If the woman's clinical condition is stable delivery may be delayed in the event other more urgent emergencies supervene. These decisions will be the responsibility of the obstetric registrar or SMO.

For Category 3 caesarean sections the aim is to deliver at the first convenient opportunity. The categorisation may be upgraded at any time should new concerns arise.

For Category 4 caesarean sections the aim is to deliver at the convenience of the obstetric and neonatal service, the woman and her lead maternity carer (LMC). The categorisation may be upgraded at any time should new concerns arise.

EXAMPLE INDICATIONS FOR CAESAREAN CATEGORIES

Example indications for the four categories are outlined in Appendix B.

NEONATAL TEAM

It is vital to ensure appropriate neonatal presence at the time of birth.

The neonatal consultant will be automatically called to attend all Category 1 Caesarean Sections.

The neonatal consultant should also be called in advance of delivery whenever a general anaesthetic is required or where significant fetal compromise is anticipated (Appendix C).

In the event that a planned regional anaesthetic is converted to a general anaesthetic BEFORE DELIVERY OF THE BABY, this will be communicated by the obstetric team to the attending neonatal team, who will contact the on call Neonatal Consultant and request their attendance.

The Neonatal Associate Clinical Nurse Manager (ACNM) and Clinical Nurse Specialist (CNS) (Advanced Neonatal Practice) or Neonatal Resident Medical Officer (RMO) will attend all Category 1 and 2 Caesarean Sections.

For all other caesarean sections the neonatal presence will be determined by the criteria set out in the accompanying neonatal team criteria for attendance document. (Refer to Appendix C)

THEATRE LOCATION

All operative deliveries will normally take place in Birthing Suite Theatre 26 or 27. In the event that both theatres are occupied then main theatres will be used.

If one obstetric theatre is already in use then the second on call anaesthetist and reserve theatre team may need to be mobilised.

TRIAGE IN THEATRE

Categorisation of urgency should be reviewed by the multidisciplinary team when the woman arrives in the operating theatre.

In the majority of cases it is useful to continue monitoring fetal wellbeing with cardiotocograph (CTG) in theatre whilst preparing for delivery.

The urgency of a particular situation may alter between transfer from an assessment room or birthing room to the theatre suite. It may be necessary to adjust the plan for delivery.

In some Category 1 situations, when the need for rapid caesarean section is inevitable, it may not be helpful to undertake further fetal monitoring. In these settings attempts at further monitoring may simply delay delivery.

CONSTITUTION OF TEAMS

The constitution of teams is outlined in Appendix D.

OBSTETRIC SURGICAL SAFETY CHECKLIST

The Obstetric Surgical Safety Checklist is used for all categories of caesarean section. A locally agreed checklist is mounted on the wall in theatre and requires visual and aural engagement by all in people theatre. Refer to Appendix E.

The SIGN IN is initiated by the anaesthetist or anaesthetic technician after arrival in theatre. In the case of a Category 1, SIGN IN is led by a theatre nurse during positioning of the woman.

TIME OUT is initiated by the obstetrician after positioning and before skin incision.

SIGN OUT is led by the theatre nurse at the end of the procedure before the woman leaves theatre.

ROLES AND RESPONSIBILITIES

With respect to communication, the roles and responsibilities of the various team members are outlined in Appendix F. It is expected that ISBAR principles are used throughout.

CATERGORISATION AND PREPARATION OF CAESAREAN SECTION PROCESS

For a summary of the classification and communication process refer to Appendix H.

REFERENCES

1. Joint Commission on Accreditation of Healthcare Organizations. JCAHO sentinel event alert #30. 2004.
2. Mode of anaesthetic for category 1 caesarean section and neonatal outcomes. Beckmann M, Calderbank S. ANZJOG 2012: 52: 316-320.

APPENDICES

APPENDIX A CALL PROCESS

CATEGORY 1

ACMM pages (22) 5333 4# and activates Category 1 Caesarean Section team. Birthing Suite ward clerk phones neonatal consultant on call and asks if the neonatal consultant would like to speak to the Birthing Suite ACMM. The neonatal consultant will contact the NICU ACNM to inform them that they have received the message and are on their way.

The categorisation and therefore urgency may be upgraded at any time to Category 1 should new concerns arise:

- If this occurs prior to the woman being transferred to theatre, the birthing suite ACMM is informed, activates the category 1 page and requests the Ward Clerk phones the Neonatal SMO.
- If the upgrade occurs in theatre, the change in classification is communicated verbally to the team present by the obstetric team. The red Emergency bell is to be pressed by the Midwife so the ACMM is alerted to the developing situation who then activates the Category 1 page and requests the Ward Clerk to call the Neonatal SMO to attend.

CATEGORY 2

ACMM calls theatre team and neonatal team. Obstetrician to liaise with anaesthetist.

CATEGORY 3

ACMM calls theatre team and neonatal team. Obstetrician to liaise with anaesthetist.

CATEGORY 4

Book through elective system.

GENERAL ANAESTHETIC

NB: for any category of caesarean where a general anaesthetic is administered a Neonatal Consultant must be notified at the time the decision is made for general anaesthetic

APPENDIX B EXAMPLE INDICATIONS FOR CAESAREAN CATEGORIES

1. IMMEDIATE THREAT TO LIFE OF WOMAN OR FETUS

1. Fetal bradycardia of FHR < 100 bpm for > 5 minutes duration with no return to the baseline
2. Absent variability (with no other explainable causes, eg. Magnesium Sulphate infusion, beta blockers (Labetalol))
3. Fetal scalp lactate ≥ 5.8
4. Cord prolapse with bradycardia
5. Suspected scar dehiscence or uterine rupture
6. Any other indication as determined by the obstetrician

2. MATERNAL OR FETAL COMPROMISE REQUIRING RAPID BIRTH

1. CTG abnormality with scalp lactate 4.8-5.7
2. Breech presentation in active labour unsuitable for vaginal birth
3. Any other indication as determined by the obstetrician

3. MATERNAL OR FETAL COMPROMISE REQUIRING EARLY BIRTH

1. Delay in progress of labour with no evidence of maternal/fetal compromise
2. Women booked for elective section who present in active labour, presuming indication for caesarean still exists and birth is not deemed to be imminent
3. Failed induction of labour presuming indication for induction still exists
4. Pre-eclampsia at term unsuitable for vaginal birth
5. Suspected IUGR unsuitable for vaginal birth with normal CTG
6. Any other indication as determined by the obstetrician

4. NO MATERNAL OR FETAL COMPROMISE BIRTH AT A TIME TO SUIT THE WOMAN AND MATERNITY SERVICES

1. Planned elective caesarean section

APPENDIX C CONSTITUTION OF TEAMS (MINIMUM)

CATEGORY 1

Obstetric registrar and house surgeon, Anaesthetist or anaesthetic registrar, Anaesthetic Technician, Theatre Coordinator, Theatre team (Daily List Coordinator and Second Caesarean Nurse), PACU Nurse, Midwife, Neonatal Team (ACNM *and* RMO or CNS) *and* on call Neonatal Consultant.

CATEGORY 2

Obstetric registrar and house surgeon, Anaesthetist, Anaesthetic Technician, Theatre Coordinator, Theatre team (Daily List Coordinator and Second Caesarean Nurse), PACU Nurse, Midwife, Neonatal Team (ACNM *and* RMO or CNS).

CATEGORY 3

Obstetric registrar and house surgeon, Anaesthetist, Anaesthetic Technician, Theatre Coordinator, Theatre team (Daily List Coordinator and Second Caesarean Nurse), PACU Nurse, Midwife. Neonatal Team (ACNM *and* RMO or CNS) if indicated.

CATEGORY 4

Obstetric registrar and house surgeon, Anaesthetist, Anaesthetic Technician, Theatre Coordinator, Theatre team (Daily List Coordinator and Second Caesarean Nurse), Midwife. Neonatal Team (ACNM *and* RMO or CNS) if indicated.

APPENDIX D SURGICAL SAFETY CHECKLIST

OBSTETRIC SIGN IN

Led by anaesthetist after arrival in theatre*

1. **Patient has confirmed:**
   - Identity
   - Procedure and consent
2. **Caesarean section category?**
3. **Appropriate NICU support called?**
4. **Allergies?**
5. **Difficult airway?**
6. **Group and screen or blood available?**

***Category 1:** SIGN IN led by nurse during patient positioning

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OBSTETRIC TIME OUT

Led by obstetrician before skin incision

1. **Team members introduced by name and role.**
   (**Category 1 minimum:** obstetrician, anaesthetist, nurse, core midwife, neonatal doctor / nurse)
2. **Team has reconfirmed:**
   - Correct patient
   - Correct procedure
3. **Antibiotics given.**
4. **Concerns or anticipated critical events?**
   - Obstetrician
   - Anaesthetist
   - Nurse
   - Midwife
   - Neonatal doctor / nurse

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OBSTETRIC SIGN OUT

Led by nurse before patient leaves theatre

1. **Instrument, swab and needle counts are correct.**
2. **Correct procedure/s recorded.**
3. **Specimens correctly labelled / sent?**
4. **Postoperative VTE prophylaxis?**
5. **Equipment issues?**
6. **Concerns for post-op management?**
   - Surgeon
   - Anaesthetist
   - Other

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APPENDIX E NEONATAL TEAM CRITERIA FOR ATTENDANCE

NEONATAL TEAM ATTENDANCE AT BIRTH

Neonatal staffing for emergencies: (note times below when there are less staff available)

Week days/Weekends/ Public Holidays 1630-0830am following day	Two Registered Medical Officer (RMO) *or* Clinical Nurse Specialist/Advanced Neonatal Practice (CNS/ANP) on duty with the Associate Clinical Nurse Manager (ACNM) One may be called out on retrievals

The Neonatal Consultant ***is called in advance*** of a delivery when a senior clinician is appropriate or there is a reasonable chance that advanced resuscitation is possible.

NEONATAL ATTENDANCE AT CAESAREAN SECTION

The tables below are not meant to be exclusive and it should be known that the ACNM ***may*** attend a birth instead of the RMO/CNS(ANP) if the RMO/CNS are busy on neonatal or already attending a birth.

Please **note** that there may be antenatal diagnoses that require a Neonatal Consultant presence regardless of Category. Those with the potential to cause cardiorespiratory compromise for example and as soon as a decision is made for a general anaesthetic.

CLASSIFICATION FOR BIRTH		NEONATAL CNS(ANP)/RMO	ACNM	NEONATAL CONSULTANT
Any general anaesthetic		Yes	Yes	Yes

CLASSIFICATION FOR BIRTH	EXAMPLES (not an exhaustive list)	NEONATAL CNS(ANP)/RMO	ACNM	NEONATAL CONSULTANT
Category 1 Caesarean section		Yes	Yes	Yes
	Maternal arrest cardio-respiratory	Yes	Yes	Yes
	Fetal bradycardia of < 100 bpm for > 5 minutes duration with no return to the baseline Absent variability (with no other explainable causes, eg. Magnesium Sulphate infusion, beta blockers (Labetalol))	Yes	Yes	Yes
	Fetal scalp lactate ≥ 5.8	Yes	Yes	Yes

CLASSIFICATION FOR BIRTH	EXAMPLES (not an exhaustive list)	NEONATAL CNS(ANP)/RMO	ACNM	NEONATAL CONSULTANT
	Cord prolapse with bradycardia	Yes	Yes	Yes
	Suspected scar dehiscence or uterine rupture	Yes	Yes	Yes
	Placenta praevia and/or major haemorrhage with maternal compromise/fetal compromise	Yes	Yes	Yes
	Significant fetal anomalies at risk of causing cardiorespiratory compromise	Yes	Yes	Yes

CLASSIFICATION FOR BIRTH	EXAMPLES (not an exhaustive list)	NEONATAL CNS(ANP)/RMO	ACNM	NEONATAL CONSULTANT
Category 2 Caesarean section		Yes	Yes	Not routinely
	CTG abnormality (eg. late decelerations) +/- with scalp lactate 4.8-5.7	Yes	Yes	NICU ACNM/RMO/ CNS(ANP) to consider calling
	Breech presentation in active labour deemed unsuitable for vaginal birth	Yes	Yes	No
	Chronically abnormal CTG	Yes	Yes	Yes
	Significant fetal anomalies at risk of causing cardiorespiratory compromise	Yes	Yes	Yes

CLASSIFICATION FOR BIRTH	EXAMPLES (not an exhaustive list)	NEONATAL CNS(ANP)/RMO	ACNM	NEONATAL CONSULTANT
Category 3 Caesarean section		Yes	Not routinely	No
	Failed induction of labour presuming indication for induction still exists	Yes	No	No
	Pre-eclampsia at term unsuitable for vaginal birth	Yes	No	No

CLASSIFICATION FOR BIRTH	EXAMPLES (not an exhaustive list)	NEONATAL CNS(ANP)/RMO	ACNM	NEONATAL CONSULTANT
	Suspected IUGR unsuitable for vaginal birth with normal CTG	Yes	No	No
	Delay in progress in labour with no evidence of maternal/ fetal compromise	Yes	No	No
	Significant fetal anomalies at risk of causing cardiorespiratory compromise	Yes	Yes	Yes
	Women booked for elective section present in active labour, presuming indication for caesarean still exists and birth is not deemed imminent	Review reason for elective caesarean section as below		
	Delay in progress in labour	Yes	Yes	No

CLASSIFICATION FOR BIRTH	EXAMPLES (not an exhaustive list)	NEONATAL CNS(ANP)/RMO	ACNM	NEONATAL CONSULTANT
Category 4 Elective caesarean section		Yes	Not routinely	No
	Twin/Triplet/higher multiple birth	Yes	Yes	Yes < 30 weeks or triplets/ higher multiple
				Consider calling at other gestations
	Significant fetal anomalies	Yes	Yes	NICU ACNM/RMO/ CNS(ANP) to consider calling
	Infant of a diabetic mother	Yes	No	No
	Birth at 37-38 weeks in line with Ref.6971 Neonatal Attendance at Caesarean Section	Yes	No	No

APPENDIX F ROLES AND RESPONSIBILITIES

MIDWIFE IN ATTENDANCE

- Care for woman and baby according to Multidisciplinary Caesarean Section Care Pathway
- Communicate with ACMM for Birthing Suite
- Communicate with Theatre team
- Document contemporaneously any resuscitation. Delegate this task if necessary

OBSTETRIC REGISTRAR/OBSTETRICIAN IN ATTENDANCE

- Inform ACMM for Birthing Suite
- Communicate with on call anaesthetist
- Inform consultant obstetrician
- Communicate with neonatal team or ensure that ACMM for Birthing Suite has done so
- Obtain informed consent for surgery and blood transfusion and document where practicable
- Supervise woman and ensure timely transfer to theatre
- Arrange for a surgical assistant
- Initiates TIME OUT as per the Obstetric surgical safety checklist.

ASSOCIATE CLINICAL MIDWIFE MANAGER (ACNM) BIRTHING SUITE

- Communicate with theatre team, PACU nurse and neonatal team
- For Category 1 Caesarean section the procedure is to page (22) 5333 4# and put a call out for a "Category 1 Caesarean Section"
- Instruct the Birthing Suite ward clerk to phone the neonatal consultant and connect call if required
- Instruct the birthing suite ward clerk to notify them that contact has been made with the neonatal consultant
- Alerts the teams if the woman's clinical condition is stable and delivery may be delayed in the event other more urgent emergencies supervene
- Ensure appropriate staffing and safety of other women in Birthing Suite
- Ensure that the category status has been clearly marked on the whiteboard and in theatre

ACNM OR NEONATAL RMO

- Confirm category status with obstetric RMO/SMO
- Assess situation and obtain history on arrival in theatre
- Inform neonatal consultant if appropriate
- Inform neonatal consultant and request attendance if the category of CS is upgraded to Category 1 after initial decision
- Inform neonatal consultant and request attendance if there is a change from regional anaesthetic to general anaesthetic before delivery of the baby

ANAESTHETIST

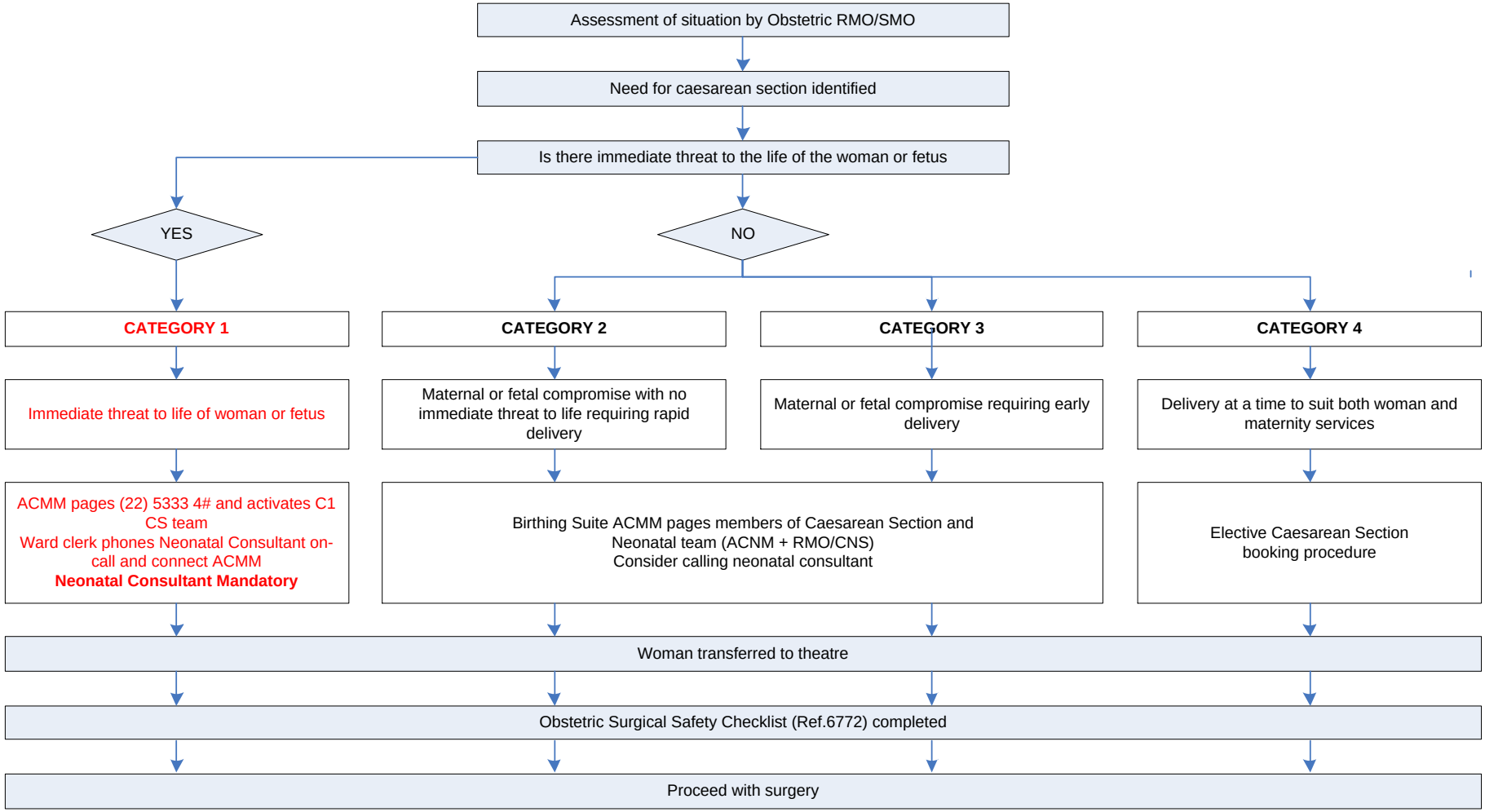
- Communicate with obstetrician
- Communicate with ACMM for Birthing Suite
- Assess clinical situation and patient history to plan safe anaesthesia
- Inform consultant anaesthetist on call if appropriate
- Supervise woman and ensure timely transfer to theatre
- If anaesthesia changes from regional to a general anaesthetic ensure that this has been clearly communicated to NICU team as they will need to request neonatal consultant presence
- Anaesthetist or anaesthetic technician performs SIGN IN as per the Obstetric surgical safety checklist except if it is a Category 1.

DAILY LIST COORDINATOR

- Display category of caesarean section on theatre whiteboard at start of procedure
- Remove category from theatre whiteboard at finish
- Lead SIGN IN for Category 1.

APPENDIX G CATEGORISATION AND PREPARATION FOR CAESAREAN SECTION PROCESS

(NOTE: Categorisation may be upgraded at any time according to clinical concerns)



APPENDIX H SUMMARY OF CLASSIFICATION AND COMMUNICATION FOR CAESAREAN SECTION

CATEGORY	DESCRIPTION	EXAMPLE OF INDICATIONS FOR CS	CALL PROCESS	CAESAREAN SECTION TEAM
Category 1	Urgent caesarean section with immediate threat to the life of the woman or fetus	Fetal bradycardia of < 100 bpm for > 5 minutes duration with no return to the baseline Absent variability (with no other explainable causes, eg. Magnesium Sulphate infusion, beta blockers (Labetalol)) Fetal scalp lactate ≥ 5.8 Cord prolapse with bradycardia Suspected scar dehiscence or uterine rupture Any other indication as determined by obstetrician	ACMM pages (22) 5333 4# and activates Category 1 Caesarean Section team Birthing Suite ward clerk phones neonatal consultant on call and connects to Birthing Suite ACMM	Obstetric Registrar and House Surgeon, Anaesthetist, Anaesthetic Technician, Theatre Co-ordinator, Theatre team (Daily List Coordinator and Second Caesarean Nurse), PACU Nurse, Midwife, Neonatal Team (ACNM *and* RMO or CNS) *and* on call Neonatal Consultant
Category 2	Maternal or fetal compromise requiring rapid delivery	CTG abnormality with scalp lactate 4.8-5.7 Breech presentation in active labour deemed unsuitable for vaginal birth Any other indication as determined by obstetrician	ACMM call theatre and neonatal team Obstetrician liaise with anaesthetist	Obstetric Registrar and House Surgeon, Anaesthetist, Anaesthetic Technician, Theatre Co-ordinator, Theatre team (Daily List Coordinator and Second Caesarean Nurse), PACU Nurse, Midwife, Neonatal Team (ACNM *and* RMO or CNS)
Category 3	Maternal or fetal compromise requiring early delivery	Failed induction of labour presuming indication for induction still exists Pre-eclampsia at term unsuitable for vaginal delivery Suspected IUGR unsuitable for vaginal birth with normal CTG Delay in progress of labour with normal CTG Women booked for elective section who present in active labour, presumed indication for caesarean still exists and vaginal birth is not imminent Any other indication as determined by obstetrician	ACMM call theatre and neonatal team Obstetrician liaise with anaesthetist	Obstetric Reg & HS, Anaesthetist, Anaesthetic Technician, Theatre Co-ordinator, Theatre team (Daily List Coordinator and Second Caesarean Nurse), PACU Nurse, Midwife Neonatal Team (ACNM *and* RMO or CNS) if indicated
Category 4	No maternal or fetal compromise Birth at a time to suit the woman and the maternity services	Planned elective caesarean section	Book through elective system	Obstetric registrar and house surgeon, Anaesthetist, Anaesthetic Technician, Theatre Co-ordinator, Theatre team (Daily List Coordinator and Second Caesarean Nurse), Midwife. Neonatal Team (ACNM *and* RMO or CNS) if indicated