



**CONFIDENTIAL AUDIT
OF
SEVERE MATERNAL MORBIDITY IN IRELAND**

Notification Form: 2019

Hospital Name _____

Completed by _____
(Please print name and staff grade)

Date of clinical event: / /

Time of onset of clinical event: :

Woman's details:

Age Height at booking _____ cm BMI
Parity: + Weight at booking _____ kg
(Status prior to delivery)

Date of delivery: / / Gestation at delivery/pregnancy end
(or pregnancy end) (Completed weeks)

1a. Ethnic group: White Irish Irish Traveller

Any other White background Please specify country of origin _____

Asian or Asian Irish Black or Black Irish

Other, including mixed ethnic backgrounds: Not recorded

1b. Was the care of this woman transferred from another hospital Yes No

If yes please indicate timing of transfer in relation to pregnancy status:

Woman transferred with fetus in-utero Woman transferred following delivery of baby

Name of referring maternity unit: _____

2a. Did the woman smoke at booking? Yes please specify quantity _____

No Not recorded

2b. Did she give up smoking during pregnancy? Yes No Not recorded N/A

3. Did the woman drink alcohol at booking? Yes .No Not recorded

4. Is there documented history of drug abuse or attendance at a drug rehabilitation unit?

None recorded Prior to this pregnancy During this pregnancy

5 Obstetric history: Did the woman have a previous caesarean section Yes No

6. This Pregnancy

6 a. Was this pregnancy the result of infertility treatment? Yes No Unknown

6 b. If yes please specify method of fertility treatment _____

7. Was this an early pregnancy loss? No Yes: Miscarriage Yes: Ectopic pregnancy

If early pregnancy loss please go to question 10

8 Delivery Details

8a. Onset of Labour: Spontaneous Induced Never in labour

8b. Lie of fetus at delivery Longitudinal Oblique Transverse

8c. Presentation at delivery Cephalic Breech Other

8d. Number of fetuses/babies in this delivery

9. Mode of delivery:

	Baby 1	Baby 2*		Baby 1	Baby 2*
i) Spontaneous vaginal delivery	<input type="checkbox"/>	<input type="checkbox"/>	vi) Elective LSCS not in labour	<input type="checkbox"/>	<input type="checkbox"/>
ii) Assisted vaginal breech delivery	<input type="checkbox"/>	<input type="checkbox"/>	vii) Elective LSCS in labour	<input type="checkbox"/>	<input type="checkbox"/>
iii) Ventouse vaginal delivery	<input type="checkbox"/>	<input type="checkbox"/>	viii) Emergency LSCS not in labour	<input type="checkbox"/>	<input type="checkbox"/>
iv) Non-rotational forceps vaginal delivery	<input type="checkbox"/>	<input type="checkbox"/>	ix) Emergency LSCS in labour	<input type="checkbox"/>	<input type="checkbox"/>
v) Rotational forceps vaginal delivery	<input type="checkbox"/>	<input type="checkbox"/>	x) Classical Caesarean Section	<input type="checkbox"/>	<input type="checkbox"/>

10. Neonatal Outcome

Please answer **yes** or **no** as applicable

Baby Outcomes	Baby 1	Baby 2	Baby 3
Birth weight in grams			
Intubation following delivery			
Transferred to SBCU/NICU			
*Early Neonatal Death			
*Late Neonatal Death			
Intrauterine death \geq 500g and/or \geq 24 weeks gestation			

11. Maternal Care Details

11a. Location of Care during clinical event:

Please tick all that apply

On the ward Delivery Suite Theatre High dependency unit ICU/CCU

11b. Level of Care Required:

Please indicate the **highest level** of care required during the clinical event:

Level of care	Definition	Please tick one box
Level 0: Normal ward care	Care of low risk pregnant women	
Level 1: Additional monitoring or intervention, or step down from higher level of care	Patients at risk of their condition deteriorating and needing a higher level of observation or those recently relocated from higher levels of care	
Level 2: Single Organ Support**	Patients requiring invasive monitoring/intervention* including support for a single failing organ system (excluding advanced respiratory support).	
Level 3: Advanced respiratory support alone, or support of two or more organ systems**	Patients requiring advanced respiratory support (mechanical ventilation) alone or basic respiratory support along with support of at least one additional organ.	

* **invasive monitoring/intervention includes the use of arterial and CVP lines**

****Examples of level 2 and 3 care in the critically ill pregnant or recently pregnant woman are outlined below**

Level 2 examples

Basic Respiratory Support (BRS): 50% or more oxygen via face-mask to maintain oxygen saturation; Continuous Positive Airway Pressure (CPAP), Bi-Level Positive Airway Pressure (BIPAP)

Basic Cardiovascular Support (BCVS): Intravenous anti-hypertensive, to control blood pressure in pre-eclampsia; Arterial line used for pressure monitoring or sampling; CVP line used for fluid management and CVP monitoring to guide therapy

Advanced Cardiovascular Support (ACVS): Simultaneous use of at least two intravenous, anti-arrhythmic/anti-hypertensive/vasoactive drugs, one of which must be a vasoactive drug; Need to measure and treat cardiac output

Neurological Support: Magnesium infusion to control seizures / prophylaxis of eclampsia in severe PET

Hepatic Support: Management of acute fulminant hepatic failure, e.g. from HELLP syndrome or acute fatty liver, such that transplantation is being considered

Level 3 examples

Advanced Respiratory Support: Invasive mechanical ventilation

Support of two or more organ systems: Renal support and BRS; BRS/BCVS and an additional organ supported; Intracranial pressure monitoring

Reference: Saravanakumar K, Davies L, Lewis M, Cooper GM.. High dependency care in an obstetric setting in the UK. Anaesthesia 2008;63, 1081–6.

Maternal Morbidity Category

(See page 5 for definitions)

Please tick all that apply

1. Major obstetric haemorrhage (MOH) <input type="checkbox"/>	<input type="checkbox"/> Estimated blood loss \geq 2500mls
*please identify the criteria met for MOH in the opposite column accordingly. More than 1 can apply	<input type="checkbox"/> Transfused with \geq 5 units of blood
	<input type="checkbox"/> Received treatment for coagulopathy
2. Uterine rupture	
3. Peripartum hysterectomy (PH) *please specify indication for PH in text box below	
4. Eclampsia	
5. Renal or liver dysfunction	
6. Pulmonary oedema	
7. Acute respiratory dysfunction	
8. Pulmonary embolism	
9. Cardiac arrest	
10. Coma	
11. Cerebro-vascular event	
12. Status epilepticus	
13. Septicaemic shock	
14. Anaesthetic problem	
15. ICU/CCU admission* *please specify indication for admission Duration of ICU care in days/ part days (e.g. 1.5 days) <input style="width: 100px; height: 20px;" type="text"/>	
16. Other severe morbidity, please specify	
17. Interventional radiology (IR)	

Please use this space to enter any additional relevant information.

Maternal Morbidity Definitions		
1	Major obstetric haemorrhage	Estimated blood loss \geq 2500ml, or transfused 5 or more units of blood or received treatment for coagulopathy (Fresh Frozen Plasma; Fibrinogen Concentrate Substitution Therapy; Platelets) (Also includes ectopic pregnancy meeting these criteria)
2	Uterine rupture	A complete separation of the wall of the pregnant uterus, with or without expulsion of the fetus, involving rupture of membranes at the site of the uterine rupture or extension into uterine muscle separate from any previous scar, and endangering the life of the mother or fetus. Excluded: any asymptomatic palpable or visualised defect (e.g. dehiscence noted incidentally at caesarean delivery)
3	Peripartum hysterectomy	Peripartum hysterectomy
4	Eclampsia	Seizure associated with antepartum, intrapartum or postpartum symptoms and signs of pre-eclampsia
5	Renal or liver dysfunction	Acute onset of biochemical disturbance, urea $>$ 15mmol/l, creatinine $>$ 400mmol/l, AST/ALT $>$ 200u/l
6	Pulmonary oedema	Clinically diagnosed pulmonary oedema associated with acute breathlessness and O ₂ saturation $<$ 95%, requiring O ₂ , diuretics or ventilation
7	Acute respiratory dysfunction	Requiring intubation or ventilation for $>$ 60 minutes (not including duration of general anaesthetic)
8	Pulmonary embolism	Increased respiratory rate ($>$ 20/min), tachycardia, hypotension. Diagnosed as "high" probability on V/Q scan or positive spiral chest CT scan. Treated by heparin, thrombolysis or embolectomy
9	Cardiac arrest	No detectable major pulse
10	Coma	Including diabetic coma. Unconscious for $>$ 12 hours
11	Cerebro-vascular event	Stroke, cerebral/cerebellar haemorrhage or infarction, subarachnoid haemorrhage, dural venous sinus thrombosis
12	Status epilepticus	Constant or near constant state of having seizures that last 30mins or more
13	Septicaemic shock	Sepsis induced tissue hypoperfusion or hypotension persisting after resuscitation with 30mls/kg intravenous isotonic crystalloid fluid as evidenced by: – Systolic blood pressure $<$ 90 mmHg or MAP $<$ 65 mmHg – Decrease in systolic blood pressure by 40mmHg from baseline and/or – Lactate $>$ 4 mmol/l.
14	Anaesthetic problem	Aspiration, failed intubation, high spinal or epidural anaesthetic
15	ICU/CCU admission	Unit equipped to ventilate adults. Admission for one of the above problems or for any other reason. Includes CCU admissions
16	Other severe morbidity	Other severe morbidity, e.g. amniotic fluid embolism
17	Interventional radiology	Received planned (a) or unplanned (b) interventional radiology

Please notify all categories of Severe Maternal Morbidity, as outlined above, occurring during pregnancy or up to 42 days following delivery, miscarriage, termination of pregnancy or ectopic pregnancy.

**Thank you for taking the time to complete this form.
The NPEC is sincerely grateful for your contribution to this audit.**

Queries and form submission

Please submit completed forms to:

Edel Manning
Project Manager
The National Perinatal Epidemiology Centre
Department of Obstetrics and Gynaecology
5th Floor, Cork University Maternity Hospital
Wilton
Cork

If you have questions or difficulties regarding any aspect of the form, please do not hesitate to contact the NPEC team by telephone: **021 4205042** or by email:

npec@ucc.ie

Acknowledgement

NPEC would like to acknowledge with thanks the Reproductive Health Programme of the National Health Service (NHS) Quality Improvement Scotland for permission to modify and use their Scottish Confidential Audit of Severe Maternal Morbidity notification form for a similar audit in Ireland.