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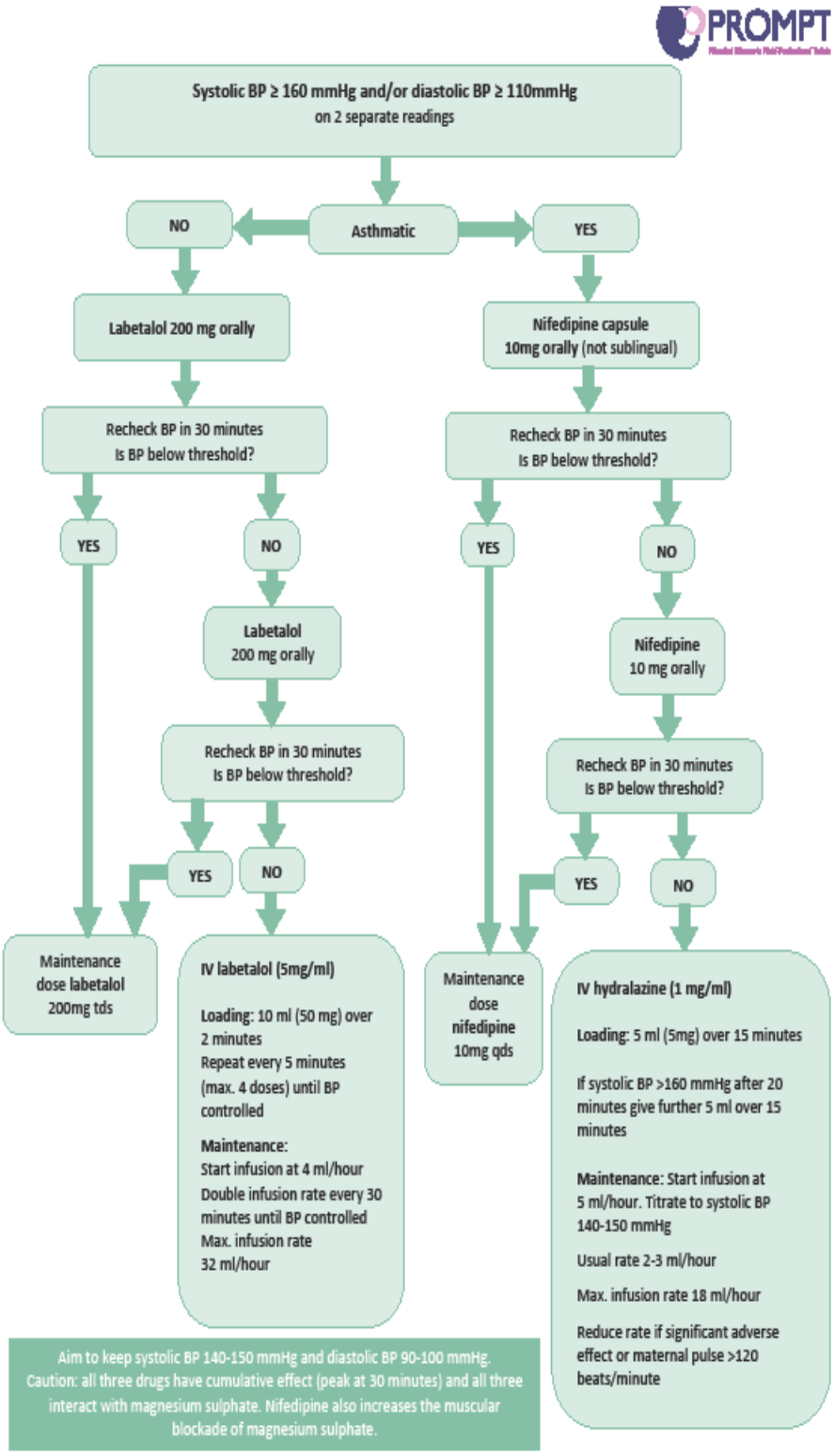
Royal Cornwall Hospitals NHS Trust

Eclampsia and Severe Pre-Eclampsia Clinical Guideline

V2.1

November 2020

Summary



Used following permissions from PROMPT 2018.

1. Aim/Purpose of this Guideline

1.1. This document gives guidance to Obstetricians, Anaesthetists, Midwives and Delivery Suite Nurses on the recognition and management of Eclampsia and Severe Pre-eclampsia.

1.2. This version supersedes any previous versions of this document.

1.3. This guideline makes recommendations for women and people who are pregnant. For simplicity of language the guideline uses the term women throughout, but this should be taken to also include people who do not identify as women but who are pregnant, in labour and in the postnatal period. When discussing with a person who does not identify as a woman please ask them their preferred pronouns and then ensure this is clearly documented in their notes to inform all health care professionals (NEW 2020).

Data Protection Act 2018 (General Data Protection Regulation – GDPR) Legislation

The Trust has a duty under the DPA18 to ensure that there is a valid legal basis to process personal and sensitive data. The legal basis for processing must be identified and documented before the processing begins. In many cases we may need consent; this must be explicit, informed and documented. We cannot rely on opt out, it must be opt in.

DPA18 is applicable to all staff; this includes those working as contractors and providers of services.

For more information about your obligations under the DPA18 please see the *Information Use Framework Policy* or contact the Information Governance Team rch-tr.infogov@nhs.net

2. The Guidance

2.1. Hypertensive disorders during pregnancy occur in women with pre-existing primary or secondary chronic hypertension, and in women who develop new-onset hypertension in the second half of pregnancy. Hypertensive disorders complicate up to 7% of all pregnancies and continue to be major cause of maternal death in the UK.

- Pre-eclampsia is new hypertension presenting after 20 weeks of pregnancy with significant proteinuria
- Severe Pre-eclampsia is pre-eclampsia with severe hypertension and/or with symptoms, and/or biochemical and/or haematological impairment
- Eclampsia is a convulsive condition associated with pre-eclampsia

2.2. Indications for transfer to DELIVERY SUITE.

Review the patient within 30 minutes of admission to delivery Suite. If the obstetric team are unavailable, it must be clearly documented in the notes why

and when a review is expected. The co-ordinator should review the patient to assess the urgency. If a Dr is required urgently, immediate escalation to the Obstetric Consultant on call should take place. Until the review happens the co-ordinator should be kept up to date with any changes. (New 2019).

Uncontrollable blood pressure (BP)

- Eclampsia
- Severe maternal symptoms
- Fetal compromise
- Renal failure

2.3. Treatment for Severe Pre-eclampsia/Eclampsia on Delivery Suite

The following clinicians should be informed, by the Delivery Suite Coordinator

- Obstetric Registrar
- Obstetric Consultant on call
- Anaesthetist on call for Delivery Suite

2.4. The decision for and mode of delivery will depend on the severity of the condition. The initial aim is to stabilise the woman. Involve the obstetric anaesthetic team at the earliest opportunity and consider elective placement of an epidural catheter.

2.5. Maternal and Fetal Monitoring/assessment

2.5.1. Midwifery

2.5.1.1. A MEOWS chart must be used.

2.5.1.2. Half hourly blood pressure, pulse, respiratory rate and pulse oximetry

2.5.1.3. 4 hourly temperature

2.5.1.4. Strict fluid balance, with hourly urine output

2.5.1.5. All women should have electronic fetal monitoring but only after the maternal condition is stabilised and should be continually monitored unless a decision made by a senior obstetrician to discontinue

2.5.2. Obstetric

2.5.2.1. The Obstetric Registrar will review the woman on admission to Delivery Suite and will document a management plan including the timing of the next review. Initially the review should be at least hourly and once stabilised review should be at least every 4-6 hours. At each review the following

should be undertaken and documented in the health records.

2.5.2.2. Change in symptoms, especially confusion and persistent visual disturbance

2.5.2.3. Observations – blood pressure, maternal heart rate, respiratory rate and Oxygen saturation

2.5.2.4. Full chest examination, including jugular venous pressure (JVP) assessment

2.5.2.5. Level of consciousness, reflexes and clonus

2.5.2.6. Fluid balance

2.5.2.7. Six-hourly blood investigations (full blood count, platelets, clotting, urea and electrolytes, liver function tests and uric acid) unless otherwise indicated

2.5.2.8. Fetal condition

2.5.2.9. If conservative management is planned then further assessment of the fetus with ultrasound measurements of fetal size, Umbilical Artery Doppler and liquor volume should be undertaken.

2.6. Blood Pressure Control

Aim to keep BP <150/100 mmHg. Oral antihypertensives should be used in the initial treatment however intravenous antihypertensives will be needed as well if BP doesn't respond to oral therapy or if there is severe hypertension e.g. BP>170/110.

2.7. Intravenous Treatment

2.7.1. If BP control requires intravenous treatment the level of care should be increased to enhance Level 1.

2.7.2. Hydralazine loading dose: Dilute 1 vial (20mg) of hydralazine with 20mls normal saline to make a concentration of 1mg/ml (20mls total). Discard 10mls of this mix.

Give 5ml (5mg) bolus over 15 minutes via syringe. Recheck BP at 20 minutes.

Repeat 5ml (5mg) bolus if BP >160mmHg

2.7.3. Hydralazine maintenance dose: Hydralazine is incompatible with Dextrose. It should be infused via a syringe driver as follows:

2.7.4. Mix 2 vials (40mg) of Hydralazine with 40mls of Normal Saline to make a concentration of 1mg/ml (40mls total)

2.7.5. Start infusion at 5mls/hr titrating systolic BP 140-150 mmHg.

2.7.6. Increase infusion by 2-3mls per hour every 15 minutes dependent on blood pressure.

2.7.7. Maximum infusion rate 18mls/hr.

2.7.8. The blood pressure should be lowered slowly as rapid alterations of the blood pressure can cause cerebral hypoxia

2.7.9. The fetal heart rate should be continuously monitored as Hydralazine can cause fetal distress

Figure 1. Algorithm for the treatment of severe pre-eclampsia with permission form PROMPT

NOTE: Never use sublingual 'crush' to lower BP. The sudden fall can cause severe fetal compromise.

2.8. Labetalol IV Treatment for BP control (caution in Asthma) Labetalol Bolus 50 mg over a period of 2 minutes slow intravenous administration, recheck BP every 5 minutes (maximum 4 doses) until BP controlled.

2.8.1. **Labetalol Infusion**

- Draw up 40mls (2 ampoules) Labetalol (5mg/ml)
- Start infusion at 20mg/hr (i.e. 4 ml/hr)
- Double every 30 minutes until a satisfactory response, (BP <150/100 mmHg) or to a maximum infusion rate of 160mg/hour

2.9. Fluid Balance
It is essential that fluid balance is closely monitored

2.9.1. Total fluid input of 80 mls/hr, except for acute replacement of blood loss

2.9.2. Infused drugs should be administered in concentrated solutions

2.9.3. Insert Foley catheter and assess fluid output hourly

2.9.4. If urine output <20 mls/hour request review by experienced obstetrician and assessment of fluid balance

2.9.5. If after 4 hours urine output <100 mls inform experienced obstetrician to review woman. Manage as per flow chart on page 5

2.9.6. If anuria (no urine output over 1 hour) at any point request review by experienced obstetrician and assessment of fluid balance

2.9.7. Management plan should be documented in the woman's notes

2.10. Fluid Management Regimen for Severe Pre-Eclampsia/Eclampsia

2.10.1. **Intravascular volume expansion** Initial volume expansion should be given **only** after discussion at consultant level and in the following situations:

2.10.2. **Indications:**

- In conjunction with vasodilator therapy for acute blood pressure control
- Acute symptomatic liver involvement
- Oliguria
- Fetal distress (without delaying delivery if mother sufficiently stable)

2.10.3. **Contraindications:**

- IV fluids have already been administered
- Cardiac disease
- Any signs of pulmonary oedema / fluid overload

2.10.4. Colloids should NOT be used for intravascular volume expansion. Use Hartmann's 500ml over 1 hour with continuous oxygen saturation monitoring.

2.10.5. Any further fluid administration should be very cautious because the Pre-eclamptic patient is very readily overloaded. Pulmonary Oedema kills - oliguria and renal tubular acidosis does not.

2.10.6. Fluid should be given according to the protocol flow chart below Figure 2 Maintenance Fluids

2.11. Magnesium Sulphate

Magnesium Sulphate should be used for women with Eclampsia and considered in Severe Pre-eclampsia.

Discuss all cases with the on-call Obstetric Consultant.

2.11.1. **Indications**

2.11.1.1. Eclampsia- Magnesium Sulphate rarely required to stop fit – usually self-limiting

2.11.1.2. Any woman with severe pre-eclampsia where the decision to deliver has been made and where there is **one other of the following criteria:**

- Hypertension with diastolic BP $\geq$ 110 mm Hg or systolic BP 170 mm Hg on two occasions and proteinuria $\geq$ 3+

- Hypertension with diastolic BP ≥ 100mg Hg or systolic BP ≥ 150 mm Hg on two occasions and proteinuria ≥ 2+ (0.3 g/day) and at least two of the following:
- Epigastric pain, vomiting, liver tenderness,
- Headache, visual disturbance, Clonus (> 3 beats)
- Haematological or biochemical evidence of developing HELLP Syndrome: platelet count < 100, ALT (Alanine Aminotransferase) >50 iu/l
- Creatinine > 100 or Creatinine Clearance <80

2.11.1.3. Clinical discretion should be used to include women who present with atypical symptoms.

2.11.1.4. Magnesium Sulphate Regimen: **Magnesium Sulphate (MgSO4) is the treatment of choice for the first fit.**

2.11.1.5. Loading dose: Magnesium Sulphate 4 grams

- Draw up 20mls of MgSO4 20% (4 grams)
- Give manually over 5 minutes IV.

2.11.1.6. Maintenance dose: Magnesium Sulphate 1 gram per hour

- Draw up 50mls of MgSO4 20% (10 grams)
- Give IV using syringe driver at rate of 5mls/hour

2.11.1.7. **If there is a supply issue with 20% MgSo4 then see *Appendix 3. When MgSo4 20% is unavailable***

2.11.2. **Recurrent seizures whilst on Magnesium Sulphate**

- Further bolus 2 grams (10ml of the 20% injection). Give IV over 5 minutes
- If possible take blood for Magnesium levels before bolus
- Notify Obstetric and Anaesthetic Consultants

2.11.3. **If further seizures occur**

- Inform Consultants
- Consider other causes of fits including intracranial haemorrhage
- Consider using other drugs, including general anaesthesia

2.11.4. **Management of a woman receiving Magnesium Sulphate**

- Experience from the Collaborative Eclampsia and Magpie Trials indicates that Magnesium Sulphate (according to the above regime) can be used safely without the need to monitor any levels
- Magnesium toxicity causes loss of tendon reflexes, followed by respiratory depression and ultimately, respiratory arrest

- Toxic levels are unlikely to be reached with a maintenance dose of 1 gram per hour and urine output of > 100mls/4 hours

2.11.5. Monitoring of a woman receiving Magnesium Sulphate (MgSO4)

2.11.5.1. Deep tendon reflexes <u>hourly</u> (Biceps tendon if epidural insitu)

- If loss of reflexes - STOP infusion and send levels
- Recommence infusion if level < 4mmol/l or reflexes return at 0.5gms per hour

2.11.5.2. Hourly Urine Measurements

- If oliguria (urine output <20 mls for >4 hrs) or urea > 10, Magnesium levels should be taken 6 hourly (therapeutic range 2-4 mmol/l).
- Magnesium levels > 4mmol/l - STOP infusion and seek consultant opinion

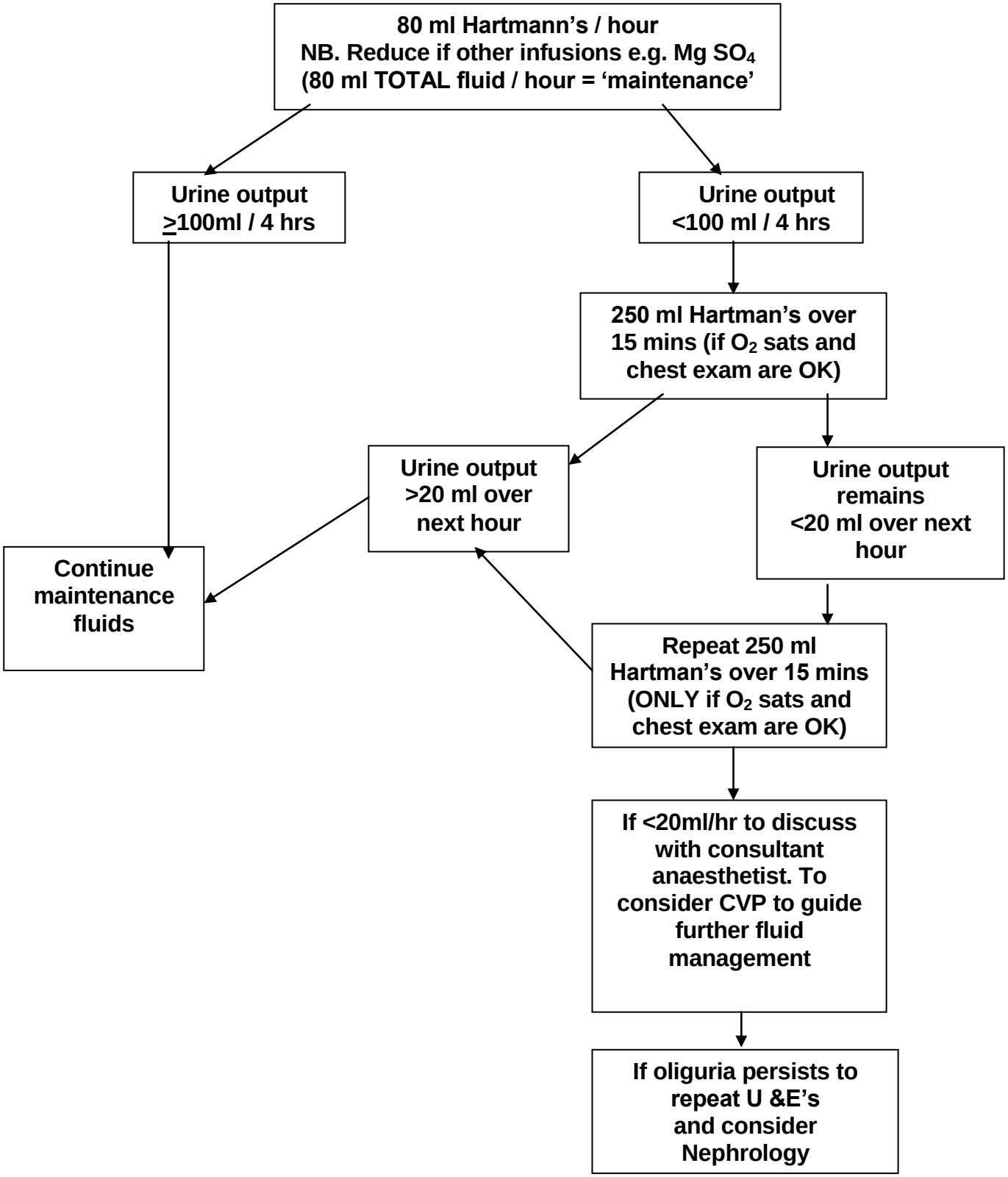
2.11.6. Continuous Pulse Oximetry

- Oxygen saturation < 95% in air should raise concern regarding Magnesium toxicity or pulmonary oedema

2.11.7. Cardiopulmonary Arrest

- Stop Magnesium Infusion
- Start basic life support
- Give 1 gram Calcium Gluconate IV (10mls 10% solution) over 10 minutes
- Intubate early and ventilate until respirations resume

Figure 2. Maintenance Fluids



2.12. Management of Blood Clotting:

For those women who chose not to receive decline blood products please refer to the following guideline: Women Declining Blood Products

http://intranet.cornwall.nhs.uk/DocumentsLibrary/RoyalCornwallHospitalsTrust/Clinical/MidwiferyAndObstetrics/BloodProductsGuidelineForTheManagementOfWomenDeclining.pdf

2.12.1. If the platelet count is less than 50 x 109/l a platelet transfusion should be considered and if for caesarean section this should be in consultation with the consultant haematologist

2.12.2. A platelet count less than 100 x 109/l (or rapidly falling count) warrant a baseline clotting screen

2.12.3. Consult Haematologist early where there is clinical or haematological evidence of coagulopathy

2.12.4. If a platelet transfusion is indicated as above, one adult dose of platelets should be administered prior to incision, plus a further adult dose at uterine closure

2.12.5. If the woman is bleeding, check fibrinogen as a low fibrinogen is an important indicator of Disseminated Intravascular Coagulation (DIC)

2.12.6. Cryoprecipitate should be given if bleeding and fibrinogen is less than 1.0g/l.

2.12.7. Fresh frozen plasma should be used to correct a prolonged prothrombin time (PT) or activated partial thromboplastin time (APTT) if bleeding is not controlled

2.13. Delivery Planning

2.13.1. The decision to deliver should not be made until the woman is stable, blood pressure control is achieved and appropriate senior personnel are present, even for fetal concerns

2.13.2. If there are fetal concerns ensure that the neonatal unit have been informed to enable them to prepare for the baby

2.13.3. If the fetus is less than 35+0 weeks of gestation and delivery can be deferred, corticosteroids should be given, although after 24 hours the benefits of conservative management should be reassessed

2.13.4. Conservative management at very early gestations may improve perinatal outcome but must be carefully balanced with maternal wellbeing

2.13.5. The mode of delivery should be determined after considering the presentation of the fetus and the fetal condition, together with the

likelihood of success of induction of labour after assessment of the cervix

2.13.6. The third stage should be managed with Syntocinon/Carbetocin

2.13.7. Syntometrine/Ergometrine should not be given, as this can further increase the blood pressure

2.14. Management Post Delivery

2.14.1. After delivery the woman must remain on DELIVERY SUITE for a minimum of eight hours

2.14.2. The decision to transfer to the wards must be made by a Senior Obstetrician

2.14.3. If Magnesium Sulphate given, this needs to continue for at least 24 hours post-delivery and the woman will remain on delivery suite during this time

2.14.4. Avoid NSAIDs

2.15. Post Natal Management

2.15.1. All the patients who had severe Pre-eclampsia/Eclampsia should be reviewed by a doctor within 24 hours of transfer to Wheal Fortune

2.15.2. To stay in the Wheal Fortune for at least 3 days unless discharged earlier by Senior Obstetrician. All women with severe pre eclampsia or Eclampsia should be given an appointment for the Consultant Antenatal Clinic (ANC) appointment in 4 weeks. It is the responsibility of the discharging doctor to ensure this appointment is arranged. ANC is not appropriate if pregnancy resulted in an intrauterine death (IUD), in this case individualized followed up will be arranged by the named consultant.

2.15.3. BP must have been <140/90 for at least 24 hours prior to discharge unless decision for discharge made by a senior obstetrician. Most women should continue on their antihypertensive therapy particularly if needed pre delivery. They should be advised to continue this until reviewed in the consultant clinic. Women in whom serum biochemistry is still deranged on discharge should be given a form and instructions to have the bloods repeated prior to the consultant appointment.

2.15.4. Community Midwife to be informed of discharge and to monitor BP daily for the first week

2.15.5. Women will be seen in the consultant clinic in 6 weeks to debrief clinical events and discuss implications for future pregnancies. If on antihypertensives then these should be reviewed as to the need to continue. The blood results should also be reviewed. A letter should be written to the GP at this appointment with clear instructions

regarding the antihypertensive therapy and BP monitoring +/- investigation of proteinuria/ deranged biochemistry if persistent.

2.15.6. Consideration of pre conceptual counseling for the next pregnancy

3. Monitoring compliance and effectiveness

Element to be monitored	• See auditing Tool at Appendix 4
Lead	• Audit Midwife
Tool	• See Appendix 4 for Auditing Tool
Frequency	• To be audited over the lifetime of the guideline or earlier if indicated
Reporting arrangements	• A formal report of the results will be received annually at the Patient Safety Forum or clinical Audit Forum, as per the audit plan • During the process of the audit if compliance is below 75% or other deficiencies identified, this will be highlighted at the next Patient Safety Forum or Clinical Audit Forum and an action plan agreed
Acting on recommendations and Lead(s)	• Any deficiencies identified on the annual report will be discussed at the Patient Safety Forum and an action plan developed • Action leads will be identified and a time frame for the action to be completed • The action plan will be monitored by the Patient Safety until all actions complete
Change in practice and lessons to be shared	• Required changes to practice will be identified and actioned within a time frame agreed on the action plan • A lead member of the forum will be identified to take each change forward where appropriate • The results of the audits will be distributed to all staff through the Patient Safety Newsletter / Clinical Audit Forum as per the action plan

4. Equality and Diversity

4.1 This document complies with the Royal Cornwall Hospitals NHS Trust service Equality and Diversity statement which can be found in the 'Equality, Diversity & Human Rights Policy' or the Equality and Diversity website.

4.2 Equality Impact Assessment
The Initial Equality Impact Assessment Screening Form is at Appendix 2.

Appendix 1. Governance Information

Document Title	Eclampsia and Severe Pre- eclampsia Clinical Guideline V2.2					
This document replaces (exact title of previous version):	Eclampsia and Severe Pre- eclampsia Clinical Guideline V2.1					
Date Issued/Approved:	August 2019					
Date Valid From:	November 2020 *(partial update)*					
Date Valid To:	January 2022					
Directorate / Department responsible (author/owner):	Helen Le Grys, Obstetric Registrar, Sophie Haynes, Obstetric Consultant.					
Contact details:	01872 25 2937					
Brief summary of contents	This document gives guidance to Obstetricians, Anaesthetists, Midwives and Delivery Suite Nurses on the recognition and management of Eclampsia and Severe Pre-eclampsia					
Suggested Keywords:	Eclampsia, Severe, Pre-eclampsia, PET, hypertension, pregnancy, blood, pressure					
Target Audience	RCHT	CFT	KCCG			
	✓					
Executive Director responsible for Policy:	Medical Director					
Approval route for consultation and ratification:	Maternity Guidelines Group Obstetrics and Gynaecology Directorate Meeting					
General Manager confirming approval processes	Mary Baulch					
Name of Governance Lead confirming approval by specialty and divisional management meetings	Caroline Amukusana					
Publication Location (refer to Policy on Policies – Approvals and Ratification):	Internet & Intranet	✓	Intranet Only			
Document Library Folder/Sub Folder	Midwifery and Obstetrics					
Links to key external standards	CNST					
Related Documents:	• Statistical Bulletin, NHS Maternity Statistics, England 1998-99 and 2000-01. Department of Health, London. April 2002.					

	• Management of Eclampsia: Clinical Guideline. RCOG, 1999. • Gallery EDM, Delprado W and Gyory AZ (1981). Antihypertensive effect of plasma volume expansion in pregnancy- associated hypertension. Aust NZ J Med 11, 20-24. • Kirshon B, Moise KJ, Cotton DB, Longmire S, Jones M, Tesem J and Joyce TA (1988). Role of volume expansion in severe pre-eclampsia. Surg Gynecol Obstet 167, 367-371. • Visser W and Wallenburg HCS (1995). Maternal and perinatal outcome of temporizing management in 254 consecutive patients with severe pre- eclampsia remote from term. Eu J Obstet Gynecol Repro Med 63, 147-154. • Eclampsia Trial Collaborative Group. Which anticonvulsant for women with Eclampsia? Evidence from the Collaborative Eclampsia Trial. Lancet 1995, 345:1455-63. • The Magpie Trial Collaboration Group. Do women with pre eclampsia, and their babies, benefit from magnesium sulphate? The Magpie Trial: a randomised placebo-controlled trial. Lancet. 2002 Jun 1, 359(9321):1877 – 90. • Sibai B. A comparison between IM and IV magnesium sulphate regimes in pre eclampsia. American Journal of Obstetrics and Gynaecology 1994, 150:728-733. • Roberts WE, Perry KG, Woods JB, Files JC, Blake PG, Martin JN. The intrapartum platelet count in patients with HELLP syndrome - is it predictive of later haemorrhagic complications? Am J Obstet Gynecol 1994; 171:799-804.
Training Need Identified?	Robust plan in place to ensure widespread communication of change to magnesium sulphate regime, and incorporated into PROMPT training programme

Version Control Table

Date	Version No	Summary of Changes	Changes Made by *(Name and Job Title)*
August 2007	V1.0	Initial issue	Rob Holmes Consultant obstetrician
June 2009	V1.1	Updated guideline	Karen Watkins Consultant obstetrician
May 2012	V1.2	Updated and compliance monitoring included	Karen Watkins Consultant obstetrician
August 2012	V1.3	Changes to compliance monitoring only	Karen Watkins Consultant obstetrician
20th October 2015	V1.4	Reviewed no major changes	Karen Watkins Consultant obstetrician
January 2019	V2.0	Full review. Additions highlighted. Amendments to MgS04 regime following a National Patient Safety Alert and appendix 4 added in case previous regime needing to be followed in the rare instance of the new ampule not being available	Helen Le Grys, Obstetric Registrar Sophie Haynes, Obstetric Consultant.
August 2019	V2.1	Addition to section 2.2.1 following recommendations from the Health Safety Investigation Branch (HSIB) regarding escalation and review of patients by an Obstetrician.	Sarah-Jane Pedler, Practice Development Midwife
November 2020	V2.2	Detail added to 2.7.3. for making up Hydralazine bolus.	Josie Dodgson, Patient Safety Midwife

Appendix 2. Initial Equality Impact Assessment

<table>
<tr><th colspan="6">Section 1: Equality Impact Assessment Form</th></tr>
<tr><td colspan="6">Name of the strategy / policy /proposal / service function to be assessed
Eclampsia and Severe Pre-eclampsia Clinical Guideline V2.2</td></tr>
<tr><td colspan="3">Directorate and service area:
Obstetrics and Gynaecology Directorate</td><td colspan="3">Is this a new or existing policy?
Existing</td></tr>
<tr><td colspan="3">Name of individual/group completing EIA:
Helen Le Grys, Sophie Haynes</td><td colspan="3">Contact details:
01872 252937</td></tr>
<tr><td>1. Policy Aim
Who is the strategy / policy / proposal / service function aimed at?</td><td colspan="5">This document gives guidance to Obstetricians, Anaesthetists, Midwives and Delivery Suite Nurses on the recognition and management of Eclampsia and Severe Pre-eclampsia</td></tr>
<tr><td>2. Policy Objectives</td><td colspan="5">To ensure that pregnant women who develop Eclampsia or Severe Pre-eclampsia are recognised and treated in line with national guidance</td></tr>
<tr><td>3. Policy Intended Outcomes</td><td colspan="5">To ensure that women with HIV who are pregnant are cared for as per this guideline.</td></tr>
<tr><td>4. How will you measure the outcome?</td><td colspan="5">Compliance Monitoring Tool</td></tr>
<tr><td>5. Who is intended to benefit from the policy?</td><td colspan="5">All pregnant women with HIV.</td></tr>
<tr><td rowspan="3">6a). Who did you consult with?

b). Please list any groups who have been consulted about this procedure.</td><td>Workforce</td><td>Patients</td><td>Local groups</td><td>External organisations</td><td>Other</td></tr>
<tr><td>x</td><td></td><td></td><td></td><td></td></tr>
<tr><td colspan="5">Maternity Guidelines Group
Obstetrics and Gynaecology Directorate
Policy Review Group</td></tr>
<tr><td>c). What was the outcome of the consultation?</td><td colspan="5">Guideline agreed.</td></tr>
</table>

7. The Impact
Please complete the following table. **If you are unsure/don't know if there is a negative impact you need to repeat the consultation step**.

Are there concerns that the policy **could** have differential impact on:

Equality Strands:	Yes	No	Unsure	Rationale for Assessment / Existing Evidence
Age		**x**		
Sex (male, female, non-binary asexual etc.)		**x**		
Gender reassignment		**x**		
Race / Ethnic communities /groups		**x**		
Disability - (learning disability, physical disability, sensory impairment, mental health problems and some long term health conditions)		**x**		
Religion / other beliefs		**x**		
Marriage and Civil partnership		**x**		
Pregnancy and maternity		**x**		
Sexual Orientation, Bisexual, Gay, heterosexual, Lesbian		**x**		

If all characteristics are ticked 'no', and this is not a major working or service change, you can end the assessment here as long as you have a robust rationale in place.

I am confident that section 2 of this EIA does not need completing as there are no highlighted risks of negative impact occurring because of this policy.

Name of person confirming result of initial impact assessment:	Mr R Holmes

If you have ticked 'yes' to any characteristic above OR this is a major working or service change, you will need to complete section 2 of the EIA form available here:
Section 2. Full Equality Analysis
For guidance please refer to the Equality Impact Assessments Policy (available from the document library) or contact the Human Rights, Equality and Inclusion Lead debby.lewis@nhs.net

Appendix 3. When MgSo4 20% is unavailable

If MgSo4 20% is unavailable please use 50% MgSo4 following the same Regimen:

Magnesium Sulphate Regimen: Magnesium Sulphate ($MgSO_4$) is the treatment of choice for the first fit.

Loading dose: Magnesium Sulphate 4 grams

- 8mls of MgSO4 (50%) diluted with 12mls Normal Saline (0.9%) = Total 20mls
- Give IV over 20 minutes using syringe driver rate of 60 mls/hour

Maintenance dose: Magnesium Sulphate 1 gram per hour

- 20mls MgSO4 (50%) diluted with 30mls Normal Saline (0.9%) = Total 50mls
- Give IV using syringe driver at rate of 5mls/hour

Appendix 4. Monitoring Compliance and Effectiveness

Guideline Audit Tool

Applicable Guideline	Eclampsia and Severe Pre-Eclampsia Clinical Guideline V2.0 (2019)
Audit Register Number	(For audit use)
Process	Retrospective
Audit Date	(For audit use)
Auditor	(For audit use)

	Audit Questions
1	Was a plan for blood pressure control written in the woman's notes?
2	Was a CTG performed on admission to Delivery suite? (and discontinued appropriately)
3	If conservative management was a USS performed for growth, Doppler's and liquor?
4	Was BP control achieved before delivery?
5	If severe PET was fluid balance monitored hourly?
6	If severe PET was a Foley's inserted with a hourly urometer?
7	If urine output <80mls/4hrs was an obstetrician informed and a plan written in the notes?
8	Was meows chart commenced?
9	Were 30 minute BP's recorded (if severe) [and MP RR and O2]
10	If severe PET was a Foleys inserted with a hourly urometer?
11	If urine output <80mls/4hrs was an obstetrician informed and a plan written in the notes?
12	If eclamptic fit occurred was MgSO4 given?
13	If severe PET was MgS04 considered?
14	If fetal concerns were NNU informed prior to delivery?
15	Was a plan for blood pressure control written in the woman's notes?
16	Was a CTG performed on admission to Delivery suite? (and discontinued appropriately)
17	If conservative management was a USS performed for growth, Doppler's and liquor?
18	Was BP control achieved before delivery?
19	If severe PET was fluid balance monitored hourly?