Whittington Health NHS

PRE-ECLAMPSIA, ECLAMPSIA AND SEVERE HYPERTENSION

Subject:	Pre- eclampsia,eclampsia and hypertension
Ratified By:	Maternity Clinical Guideline and Audit Group
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Policy Executive Owner:	F.Eben. WCF Divisional Director
Designation of Author:	C.Biswas, Consultant Obstetrician
Name of Assurance Committee:	Maternity Clinical Guideline and Audit Group
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Target Audience:	Obstetricians, Midwives and Anaesthetists
Key Words:	Hypertension, pre-eclampsia, eclampsia and pregnancy.

Version Control Sheet

Version	Date	Author	Status	Comment
2	September 2010	C.Biswas	Consultant Obstetrician	Review and update
3	June 2014	C.Biswas	Consultant Obstetrician	Review and update
4	March 2015			(Amendment).RCOG guidance – use of syntocinon in third stage of labour. Withdrawal of syntometrine.

➢ Criteria for use

For the diagnosis and management of pregnant women with severe hypertension, pre-eclampsia and eclampsia.

➢ Background/ introduction

Hypertensive disorders of pregnancy remain a leading cause of direct maternal deaths. In the last confidential enquiry[1], there were 18 deaths, at a rate of 0.85 deaths per 100,000 maternities. The most common aetiology of hypertensive deaths was intracranial haemorrhage secondary to uncontrolled systolic hypertension; the failure of effective anti-hypertensive therapy was the most common source of sub-standard care. However, over the last 20 years there were also deaths from pulmonary oedema secondary to fluid overload; this has been decreasing due to greater emphasis on fluid balance.

Specific learning points from the CEMACH report are as follows:

1. Systolic hypertension of 160 mmHg must be treated.
2. Syntocinon should be given for the management of the third stage if the mother is hypertensive or if her blood pressure (BP) has not been checked prior to its administration.
3. The anaesthetist should be given as much time as possible to try and prevent the pressor effects of intubation in the pre-eclamptic woman, even if there are pressing fetal reasons for urgent caesarean section under general anaesthesia.
4. Severe life-threatening pre-eclampsia can occur at any gestation: preterm, term, post-term or postpartum.

➢ Inclusion/ exclusion criteria

Diagnosis of pre-eclampsia:

- Persistently elevated BP of 140/90 in a patient without pre-existing hypertension
- New proteinuria of 1+ or more on dipstick; or urine protein: creatinine ratio (uPCR) greater than 30mg/nmol; or 0.3g protein/24 hours in a 24 hour urine collection.

Severe pre-eclampsia

In addition severe pre-eclampsia may present with one or more of the following:

- Symptoms and signs:
    - Severe hypertension with a systolic BP $\geq$ 160 on two occasions or diastolic BP $\geq$ 110 on two occasions
    - Severe persistent headache
    - Visual disturbance
    - Nausea and Vomiting
    - Epigastric or right upper quadrant pain and tenderness
    - Hyperreflexia with more than 2 beats of clonus
    - Papilloedema

- Abnormal Laboratory investigations:
    - Significant proteinuria (at least 1g/24 hours or uPCR of greater than 100 mg/nmol)
    - Falling platelet count < 100 x 10^9/L
    - Raised urate level
    - Raised AST or ALT
    - Abnormal renal function
    - DIC (unlikely if platelets >100 x 10^9/L^1)

- **H**aemolysis, **E**levated **L**iver enzymes and **L**ow **P**latelets (HELLP) syndrome
    - o A severe presentation of pre-eclampsia
    - o Diagnosed by confirming haemolysis by raised lactate dehydrogenase (LDH) or a blood film to look for fragmented red cells; an AST above 75 iu/L; and a platelet count below 100 x $10^9/L^1$.

Eclampsia

Eclampsia is defined as the occurrence of one or more convulsions superimposed on pre-eclampsia[1]

Inclusion criteria for severe pre-eclampsia/ eclampsia protocol

1. Blood pressure greater than or equal to 160/110
2. Eclampsia
3. Deteriorating condition i.e. the presence of symptoms, rapidly deteriorating kidney or liver function or platelets

If these criteria are met, the patient should be managed according to the protocol below.

➢ Clinical management

The aims of management are:

- Prompt control of blood pressure
- Meticulous fluid balance to avoid fluid overload
- Prophylaxis or treatment of eclamptic seizures
- Prompt delivery of fetus by vaginal or abdominal route
- Regular review of all parameters
- Monitoring for serious complications of severe pre-eclampsia

See: Algorithm 1: Overall management plan

Algorithm 2: Fluid management

Algorithm 3: Blood pressure management

Algorithm 4: Eclampsia management

Algorithm 5: Magnesium Sulphate management

General measures (see Algorithm 1):

1. Once the decision has been made to commence the woman on the severe pre-eclampsia protocol: print out checklist (appendix C), file into notes and start it.
2. Inform Consultant Obstetrician; Labour Ward (LW) anaesthetist who should inform the on-call consultant anaesthetist; labour ward co-ordinator; and neonatal team if patient is antenatal.
3. The consultant haematologist on-call and intensive care unit (ICU) team may also need to be informed depending on the situation.
4. Admit to Labour Ward (LW).
5. IV access with at least one large bore cannula.
6. Give ranitidine 150 mg (orally) and repeat 12 hourly.
7. Monitor the fetus with continuous CTG until delivery.
8. Monitor all mother's observations on Modified Early Obstetric Warning (MEOWs) chart.

Planning for delivery

1. Corticosteroid for fetal lung maturation: Give betamethasone or dexamethasone 12mg IM 2 doses 12 hours apart[4] if delivery is likely in a woman between 24 and 34 weeks gestation, and consider between 34 and 36 weeks gestation.

2. Decision for delivery and mode of delivery: This should be made in conjunction with the consultant obstetrician, and consultant neonatologist if appropriate.

3. If allowed to labour, the fetus should be assessed with continuous electronic fetal heart rate pattern monitoring.

4. 2nd stage: Operative birth should be advised for those women in second stage of labour whose severe hypertension has not been controlled by initial treatment. This is not necessary for those with blood pressure treated to the target range[4].

5. 3rd stage: manage this with Syntocinon® 10 iu IM or slow IV administration.

6. The prophylaxis or treatment of postpartum haemorrhage with 40 units oxytocin (Syntocinon®)[3] should be administered in the following way[6]:

Oxytocin (Syntocinon®) 40IU in 100 mls normal saline at 26mls/ hour; via IV infusion pump.

Fluid Management (see algorithm 2):

Special care should be taken in the fluid management of the woman with severe pre-eclampsia who has also undergone obstetric haemorrhage.

1. A urinary catheter should be inserted and urine output measured hourly.

2. Total intravenous fluid input should be limited to 1ml/kg/hr- approximately 80mls/hour. This is **inclusive** of oxytocin (Syntocinon®) and magnesium sulphate ($MgS0_4$) infusions; and oral intake if eating/drinking whilst on the severe pre-eclampsia / eclampsia protocol.

3. Fluid loading in pre-eclampsia should **never** be done prophylactically or routinely, as there is no evidence of the benefit of fluid expansion [2,3]. Consider a fluid load of 500 mls crystalloid prior to administration of the first dose of hydralazine, but not of other anti-hypertensive drugs[4].

4. Postpartum oxytocin (Syntocinon®) –10 units /hr should be given to women with fluid restriction on the severe PET protocol in the formula given above.

5. Urine Output:

    a. Intrapartum: Oliguria should not precipitate any intervention except to ensure progress to delivery[3].

    b. Postpartum: Continue to restrict fluids until a natural diuresis, which may occur at 36-48 hours postpartum

    c. See algorithm 2.

Magnesium Sulphate for the treatment and prevention of eclampsia (Algorithms 4 and 5)

Inclusion criteria a) OR b)

a) Eclamptic fit

b) Consider giving intravenous magnesium sulphate to women with severe pre-eclampsia if they have BP >140/90 AND proteinuria > 2+ AND at least one of the following:
    a. Persistent severe headache
    b. Epigastric pain, vomiting or liver tenderness
    c. Visual disturbance
    d. Hyperreflexia with> 2 beats clonus
    e. Platelet count < 100 x 109
    f. ALT> 70 iu/L
    g. HELLP syndrome

Always inform the Obstetric and Anaesthetic consultants on call if a patient is commenced on MgSO4.

➢ Anaesthetic considerations

	Please see Whittington Health Guideline: **'Obstetric Anaesthesia'**

Serious complications secondary to severe pre-eclampsia

The following rare but serious complications should be considered if the woman presents with the relevant symptoms and signs[1]:

Neurological:	Intracranial haemorrhage
	Subarachnoid Haemorrhage
	Ischaemic Stroke
	Cortical Blindness
	Cavernous sinus thrombosis
	Cerebral oedema
Pulmonary:	Pulmonary oedema
	Adult Respiratory Distress Syndrome (ARDS)
Hepatic	Liver rupture
	Liver failure/necrosis
Renal	Renal failure

➢ Postpartum Management

Note: 44% of eclamptic fits occur during the postnatal period[5]

1. The patient should remain on the Labour Ward for at least 24 hours after delivery. The blood pressure and fluid balance should be recorded on the Labour Ward MEOWS chart.

2. When the woman is transferred to the postnatal ward, the blood pressure should be measured four-hourly on the postnatal MEOWS chart until she is discharged. She should be asked about severe headache and epigastric pain whenever the blood pressure is measured[4]. A fluid balance chart should be kept for at least 72 hours or until the serum creatinine levels are in the normal range.

3. Blood parameters (platelets, serum transaminases and serum creatinine) should be measured 48-72 hours after delivery, and if normal, they should not be repeated again. However they should continue to be repeated as clinically indicated if they are improving but still within the abnormal range.

4. The blood pressure should be kept below 150/100. If the woman was treated prior to delivery she should continue with her antenatal medication, except methyldopa which should be changed to another medication within 2 days of delivery. If the woman was not treated prior to delivery, anti-hypertensive treatment should be started for the first time if the blood pressure exceeds 150/100.

   The following antihypertensive medications are suitable for the breast-feeding postnatal woman [4]: Healthcare professionals may prescribe these medicines during breastfeeding if they consider that this treatment is essential for the lactating mother. Careful follow-up of the infant for possible signs of hypotension is recommended.[8]

Labetolol

Nifedipine

Enalapril

Atenolol

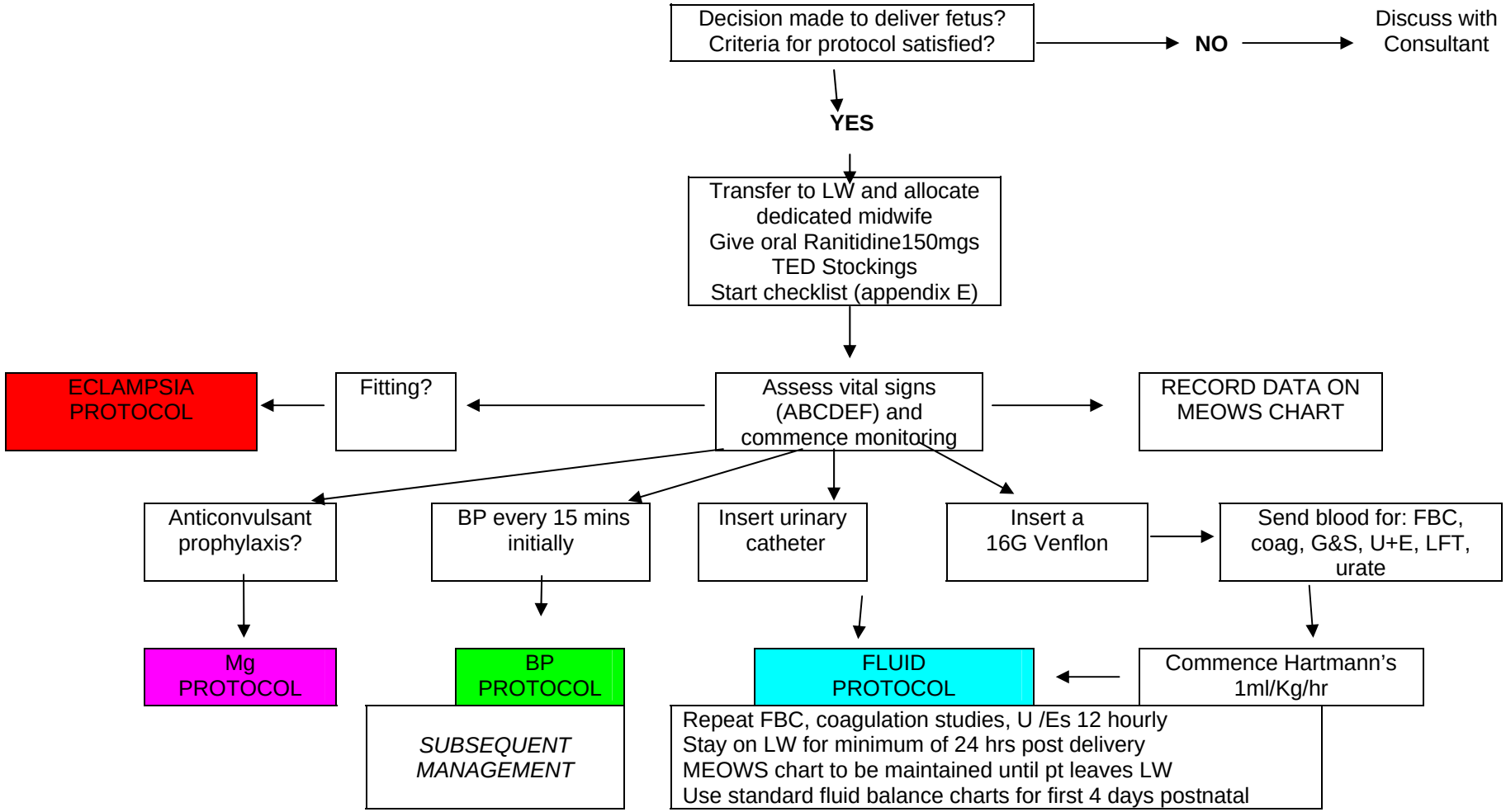
Captopril

5. The woman should be kept in until day 3-4 postnatal for the control of her blood pressure. After discharge her blood pressure should be measured every 1-2 days for two weeks until she is off medication and no longer hypertensive. A copy of the discharge letter should be faxed AND sent to the GP, as well as giving a copy to the woman and a copy being placed in the clinical records (**See appendix A**)

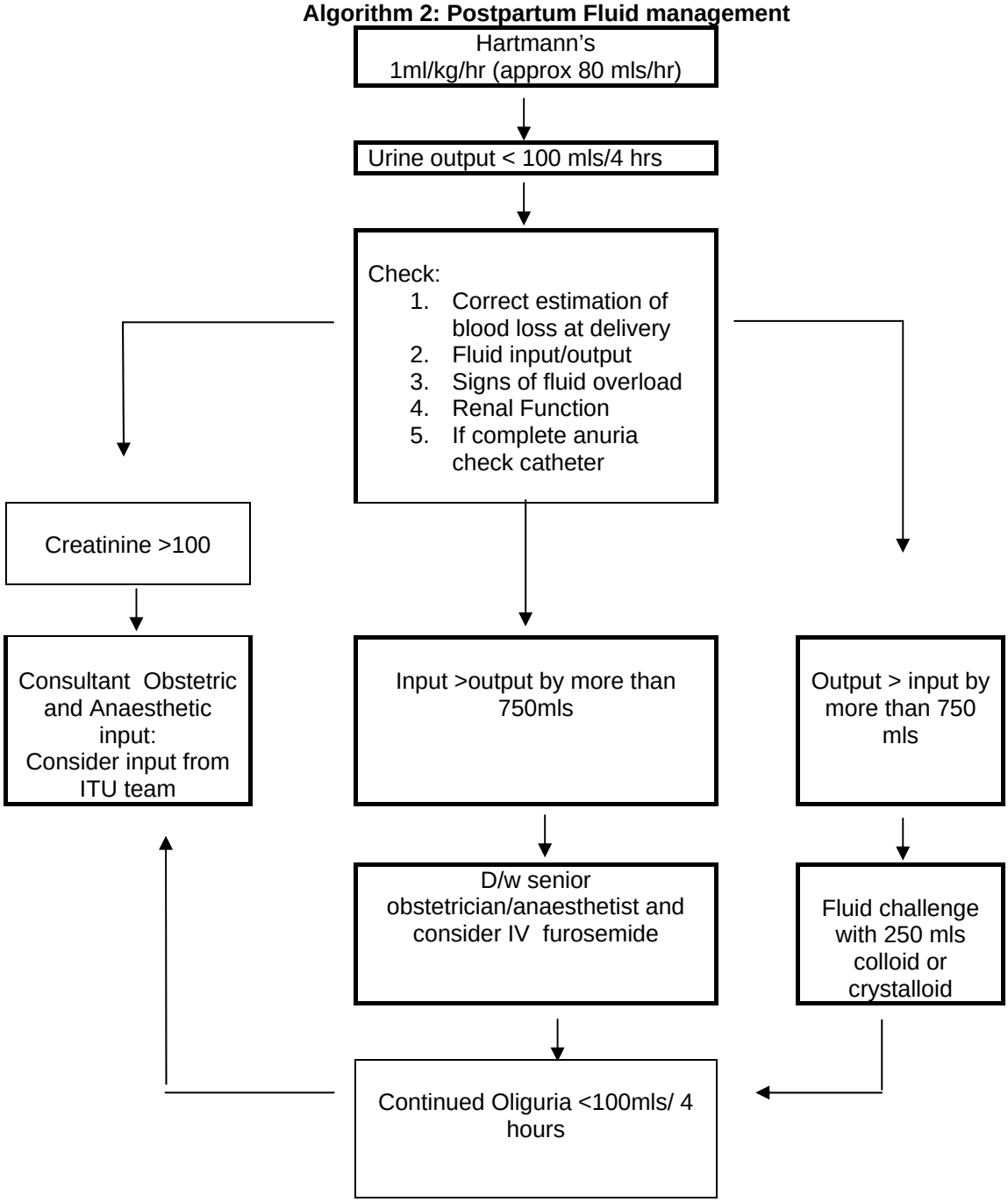
6. The blood pressure medication should be reduced when the BP is 130-140/80-90

7. The woman should be seen at 6-8 weeks postnatal. She may be seen in the Obstetric Medicine Clinic. Her blood pressure and urine dipstick should be checked. If she is still on medication or has more than 2+ protein on urine dipstick, her renal function should be further assessed and referral to specialist services should be considered.

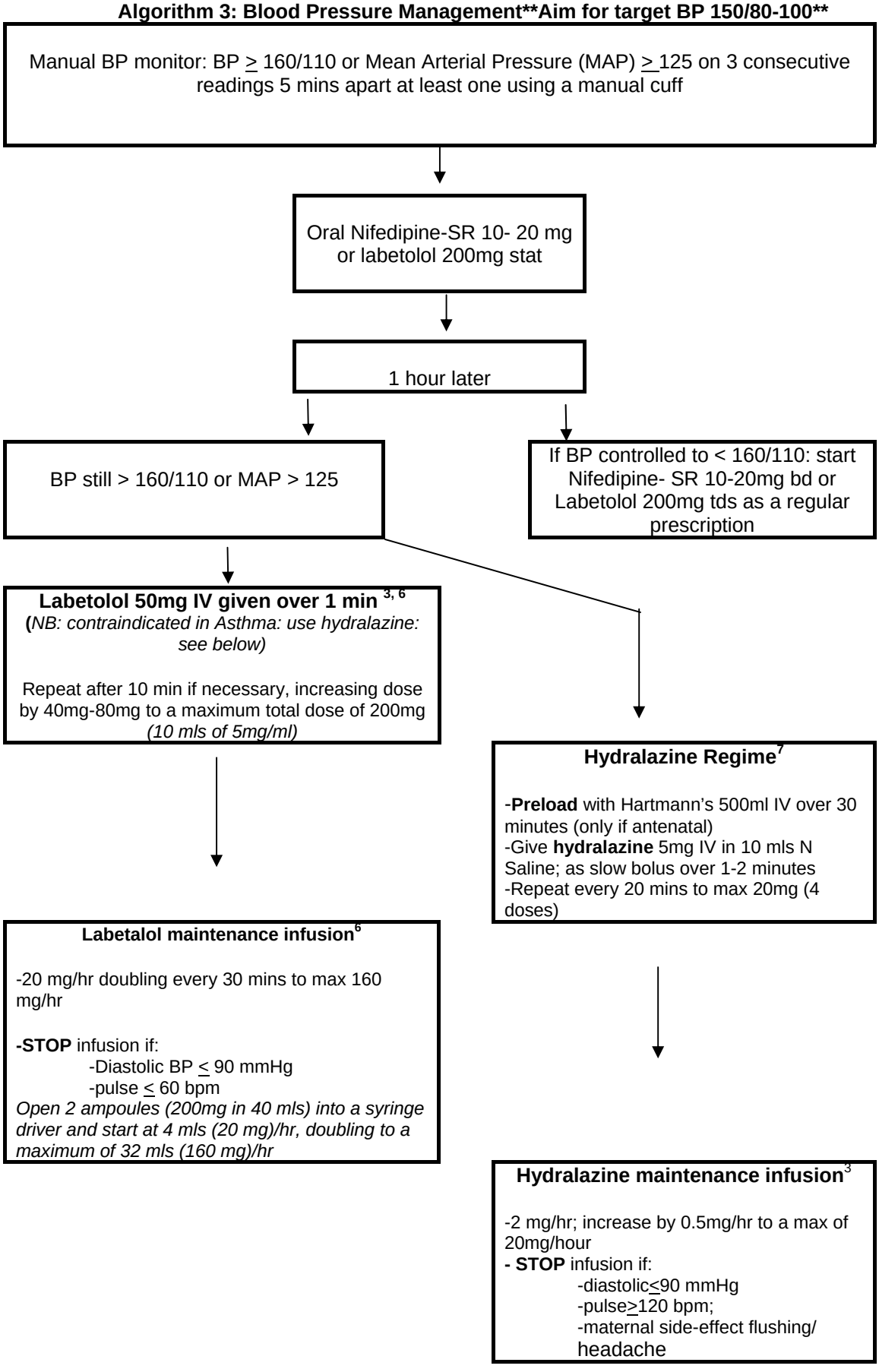
Overall management plan (Algorithm 1)



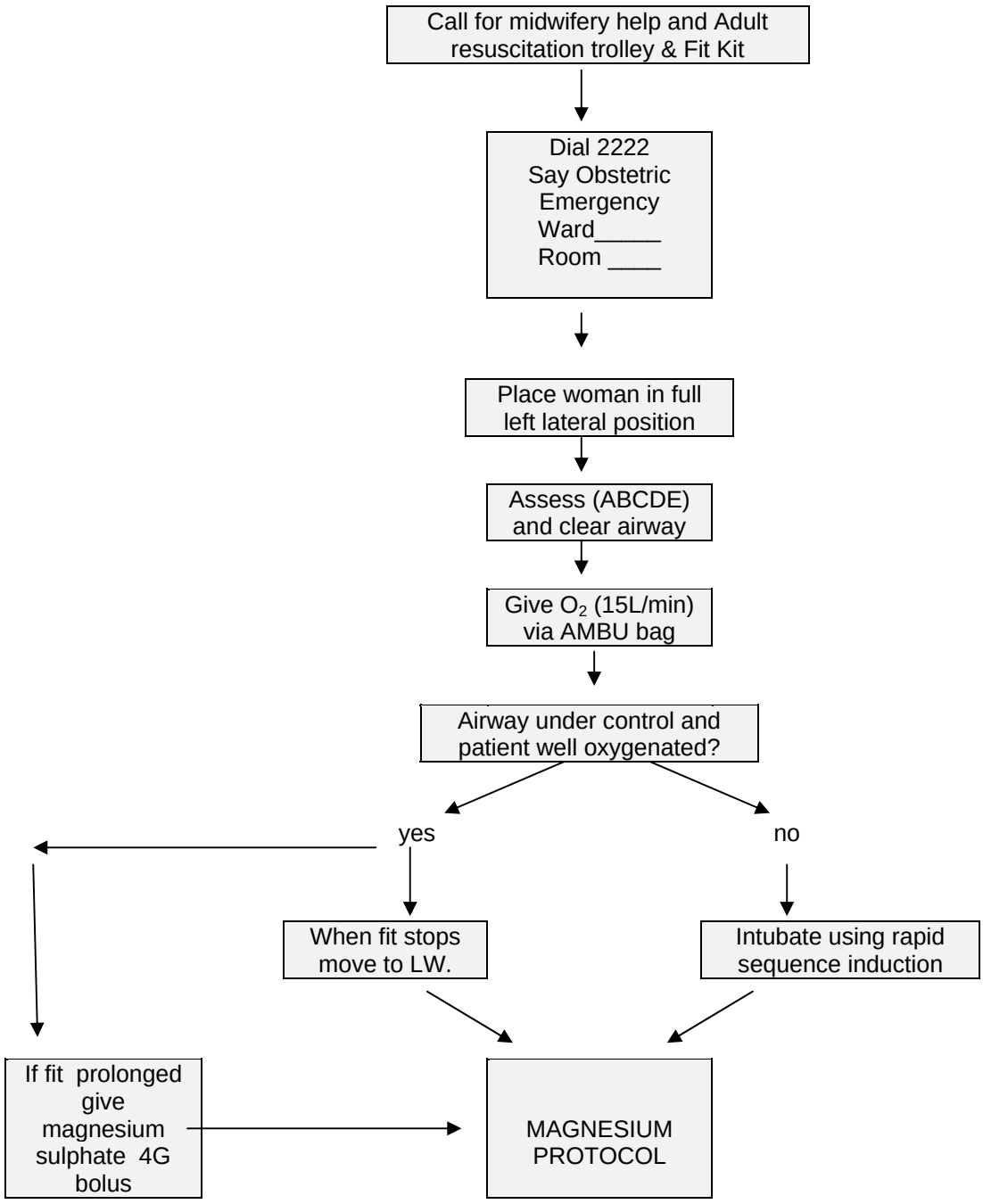
Algorithm 2: Postpartum Fluid management



Algorithm 3: Blood Pressure Management Aim for target BP 150/80-100****



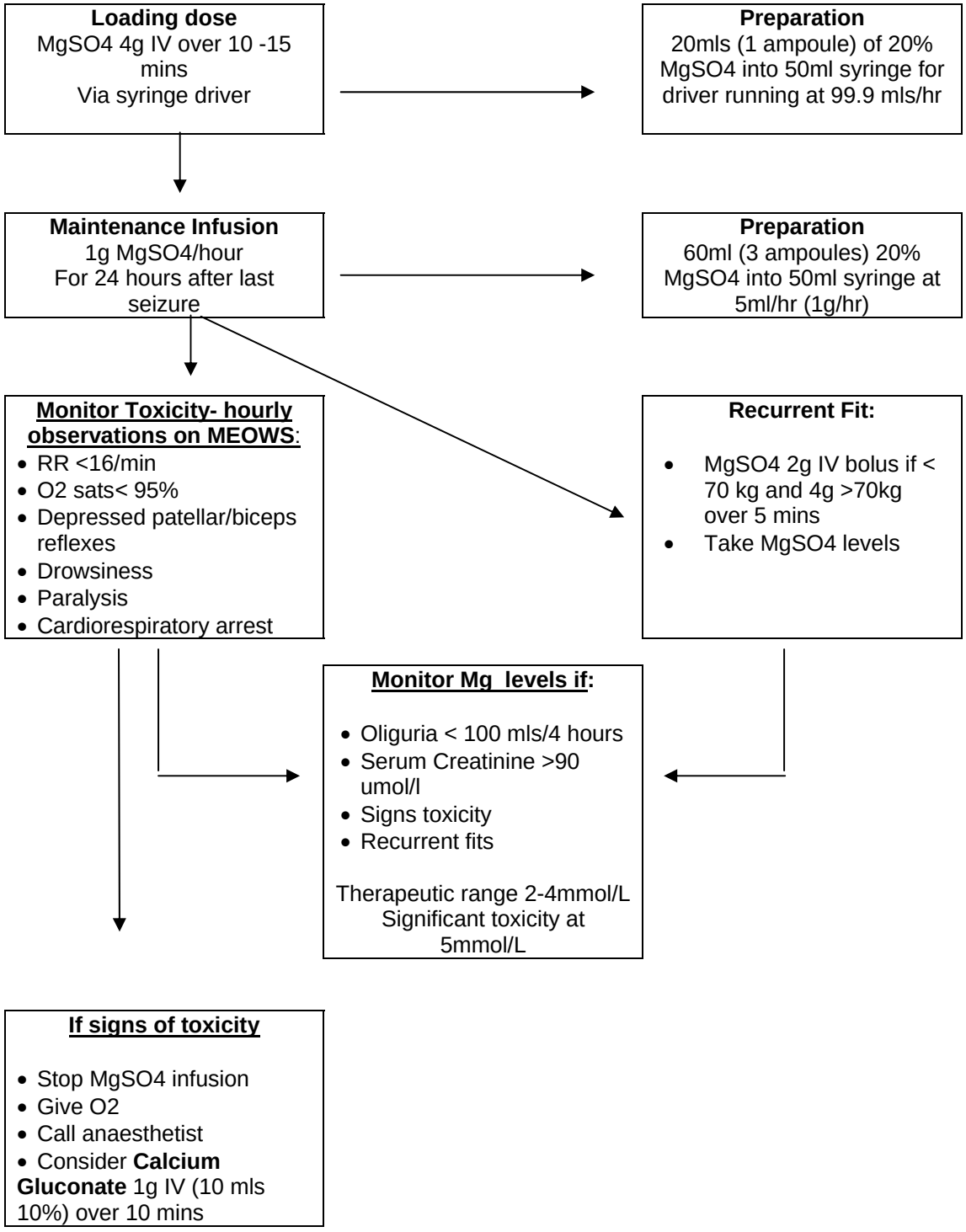
Eclampsia management (Algorithm 4)



Recurrent seizures: Give further bolus of 2-4G Magnesium Sulphate (depending on weight; see algorithm 5).
Consider anaesthesia and intubation/ventilation.

A CT scan of the head must be performed in women with recurrent seizures to exclude other CNS pathology.

Algorithm 5: Magnesium Sulphate Management



➢ Contacts (inside and outside the Trust including out-of-hours contacts)

Emergency Call: 2222 'Obstetric Emergency Room _____ on _____ward; room_____

On call Consultant Obstetrician	Call via switchboard
On Call Consultant Anaesthetist	Call via switchboard
Obstetric Registrar on call	Bleep 2838
Obstetric SHO on call	Bleep 3066
LW Anaesthetic Registrar on call	Bleep 3067
ITU Registrar on call	Bleep 2613
Critical Care Outreach team	Bleep 2837

➢ References (evidence upon which the guideline is based)

1. Saving Mothers' Lives: Reviewing maternal deaths to make motherhood safer 2003-2005. The Seventh Report of the Confidential Enquiries into Maternal Deaths in the United Kingdom RCOG 2007 (ISBN: 978-0-9533536-8-2)
2. The management of severe Pre-Eclampsia/ Eclampsia RCOG Green Top Guideline No 10(A) March 2006
3. Managing Obstetric Emergencies and Trauma: The MOET course Manual 2nd edition RCOG 2007 (ISBN 978-1-904752-21-9)
4. NICE guideline: Hypertension in pregnancy: the management of hypertensive disorders during pregnancy NCC-WCH 2010 April 2010
5. Eclampsia in the United Kingdom. BMJ 309 1395-1400 Douglas KA and Redman CWG (1994).
6. British National Formulary BNF 58 BMJ Group September 2009 (ISBN 978 0 85369 848 7)
7. Consensus view see UCLH guidelines. MHRA Drug Safety Update 2 (12) July 2009

Appendix A: Letter to GP informing them of discharge of hypertensive postnatal patient from the Whittington Hospital (please fax as well as post, and make copies for the patient and notes)

Date:……..

To: **Dr**……..
……..
……..
……..

Fax No ……..

Re: Your Patient**:**

Name ……..

DOB ……..

Hosp No ……..

Address ……..
……..
……..

Your patient was delivered at the Whittington Hospital on**……..**

*****Her antenatal/postnatal course has been complicated by hypertension*****

She was discharged from Whittington on (date)……..…

Her Blood Pressure at booking was……..……

Her Blood pressure on discharge was……..…

Her Blood pressure medication on discharge was……...

*****Please send her urgently to Labour Ward (0207 288 5502) if she has any NEW symptoms suggestive of poorly controlled hypertension, pre-eclampsia or impending eclampsia*****

Her 6/52 postnatal appointment is on……in the ANC with……...

Please see her (tick as applicable):

☐ In……days time to check her blood pressure and then alternate days for up to 2 weeks.

☐ With a view to tailing off /stopping her medication if her BP is consistently less than 130-140/ 80-90

☐ Please refer her if you have any concerns about control of her hypertension.

☐ Any other comments……..……...

……

……

Yours Sincerely,

Name:

Bleep

Consultant team:

Appendix B: Audit Tool

Women's Health Maternity

Audit Tool for Guideline

Severe hypertension, preeclampsia and eclampsia

Objectives of the audit:

The objective of this audit is to demonstrate compliance of the guideline in all cases of severe hypertension and severe pre-eclampsia against the following standards:

1. Severe hypertension was correctly assessed and diagnosed according to the inclusion criteria in 100% cases.
2. There were clear lines of communication between the consultant obstetrician, consultant anaesthetist, Labour Ward co-ordinator and (neonatologist if the patient was antenatal) in 100% cases.
3. There was appropriate control of blood pressure in 100% cases.
4. There was appropriate fluid management in 100% cases.
5. Magnesium Sulphate was used for the prevention of seizures if appropriate in 100% cases.
6. There was appropriate control of eclamptic seizures in 100% cases.
7. The fetus was assessed and delivery planned appropriately in 100% cases.
8. Postnatal follow- up was appropriately planned in 100% cases

Data sources

The data will be collected from case notes

Re-audit

The guideline will be audited as required.

Audit tool **Hospital No:** **Date delivered:**

Standard 1	Severe pre-eclampsia was correctly assessed and diagnosed according to the inclusion criteria	Assessment	Time frame
	Severe pre-eclampsia was correctly assessed and diagnosed according to the inclusion criteria	By case note audit □ yes □ no	Annual

Standard 2	Clear lines of communication between the disciplines	Assessment	Time frame
	1. On call Obstetric consultant called	By case note audit □ yes □ no □ N/D	Annual
	2. On call anaesthetist called	□ yes □ no □ N/D	

Standard 3	Blood pressure was appropriately controlled	Assessment	Time frame
	1.Blood pressure measured every 15 mins	By case note audit □ yes □ no	Annual
	2.Oral nifedipine/labetolol	□ yes □ no	
	3.Intravenous labetolol	□ yes □ no	
	4.Intravenous hydralazine	□ yes □ no	
	5.Preloaded with gelofusine prior to hydralazine	□ yes □ no	
	6. BP maintained at <160/100	□ yes □ no	

Standard 4	Fluid management was appropriate	Assessment By case note audit	Time frame
			Annual
	1. Urinary catheter was inserted	□ yes □ no	
	2. Fluid restriction 1ml/kg/hr	□ yes □ no	
	3. Oliguria managed according to algorithm	□ yes □ no □ N/A	
	Assessment of U+E	□ yes □ no	
	Assessment of pulmonary oedema	□ yes □ no	
	Fluid challenge if fluid depleted	□ yes □ no □ N/A	
	IV diuretic if fluid overloaded	□ yes □ no □ N/A	

Standard 5	Magnesium Sulphate was used for the prevention of seizures if appropriate	Assessment By case note audit	Time frame
			Annual
	1. MgSO4 protocol commenced appropriately	□ yes □ no □ N/A	
	BP >140/90	□ yes □ no	
	Proteinuria >2+	□ yes □ no	
	Symptoms and signs	□ yes □ no	
	Pts<100 or ALT > 70 or HELLP	□ yes □ no	
	2. Consultant obstetrician informed	□ yes □ no	
	3 Consultant anaesthetist informed	□ yes □ no	
	4. Signs of toxicity (RR/sats /reflexes) monitored	□ yes □ no	
	5. Appropriate checking of Mg levels	□ yes □ no □ N/A	

Standard 6	There was appropriate control of eclamptic seizures.	Assessment By case note audit	Time frame
	1.2222 called 2. ABCDE and O2 3. MgSO4 protocol commenced 4. Second dose of MgSO4 given if appropriate 5. Intubation for recurrent fits if appropriate 6. Signs of toxicity (RR/sats /reflexes) monitored 7. Calcium Gluconate if signs toxicity 8. Appropriate checking Mg levels	□ yes □ no □ yes □ no □ yes □ no □ yes □ no □ N/A □ yes □ no □ N/A □ yes □ no □ yes □ no □ N/A □ yes □ no □ N/A	Annual

Standard 7	The fetus was assessed and delivery planned appropriately	Assessment By case note audit	Time frame
	1. Mode of delivery discussed with consultant obstetrician and neonatologist if appropriate 2. 2 doses betamethasone given if <34/40 3. labour induced 4. continuous CTG 5. Delivery by CS 6.Delivery by assisted vaginal delivery 7. SVD	□ yes □ no □ N/A □ yes □ no □ N/A □ yes □ no □ N/A □ yes □ no □ N/A □ yes □ no □ N/A □ yes □ no □ N/A □ yes □ no □ N/A	Annual

Standard 8	Postnatal (PN) follow- up	Assessment By case note audit	Time frame
	1. Repeat bloods within 12 hours 2. MEOWS chart on Labour Ward 3.Minimum stay on LW for 24 hrs 4. MgSO4 for 24 hours post delivery 5. 4-hourly BP measurement on PN ward 6.Fluid balance chart for 72 hours 7. PN HT letter sent to GP 8. PN follow-up at 6-8/52 postnatal	□ yes □ no □ yes □ no □ yes □ no □ yes □ no □ yes □ no □ yes □ no □ yes □ no □ yes □ no	Annual

<u>Other data collection</u>

<u>Baby</u>

Gestation

Livebirth/stillbirth □ liveborn □ stillborn

Birthweight ……g Centile …….

Apgar Score at 5mins

Cord gases Arterial …….. venous ……..

Admission to NICU □ yes □ no

<u>Maternal morbidity</u>

Eclampsia □ yes □ no

Intracranial haemorrhage □ yes □ no

Hellp □ yes □ no

Renal failure	□ yes	□ no
Liver failure	□ yes	□ no
Placental abruption in labour	□ yes	□ no
Pulmonary oedema	□ yes	□ no
Itu admission	□ yes	□ no
Death	□ yes	□ no

Appendix C

Severe Pre-eclampsia , Eclampsia and Severe Hypertension Checklist

(Use after decision made to commence woman on protocol)

Communication

1. On call Obstetric consultant called	□ yes Name……
2. On call anaesthetist called	
3. LW co-ordinator called	□ yes Name……
4. On call neonatologist informed	
5. Mode of delivery discussed with consultant obstetrician	□ yes Name……
6. Mode of delivery discussed with NN team and steroids discussed	□ yes □ N/A Name……
	□ yes
	□ yes □ N/A

Blood Pressure Control

1. Blood pressure measured every 15 mins	□ yes
2. BP maintained at <160/100	?? yes
3. Observations recorded on MEOWS chart	□ yes

Fluid Management

1. Urinary catheter inserted	□ yes
2. Fluid restriction 1ml/kg/hr	□ yes
3. Oliguria managed according to algorithm	□ yes □ N/A

Magnesium Sulphate

1. MgSO4 protocol commenced appropriately	□ yes □ N/A
2. Consultant obstetrician informed	□ yes Name……
3 Consultant anaesthetist informed	□ yes Name……
4. Signs of toxicity (RR/sats /reflexes) monitored	□ yes

Eclamptic Fit

1.2222 called	□ yes □no Time……
2. ABCDE and O2	□ yes □no Time……
3. MgSO4 protocol commenced	□ yes □no Time……
4. Second dose of MgSO4 given if appropriate	□ yes □ no □N/A Time……
5. Intubation for recurrent fits if appropriate	□ yes □ no □ N/A Time……
6. Calcium Gluconate if signs toxicity	□ yes □ no □ N/A
7. Appropriate checking Mg levels	□ yes □ no □ N/A

- **Compliance with this guideline (how and when the guideline will be monitored e.g. audit and which committee the results will be reported to) Please use the tool provided at the end of this template**

To be completed and attached to any procedural document when submitted to the appropriate committee for consideration and approval

		Yes/No	Comments
1.	**Does the procedural document affect one group less or more favourably than another on the basis of:**		
	• Race	No	
	• Ethnic origins (including gypsies and travellers)	No	
	• Nationality	No	
	• Gender	No	
	• Culture	No	
	• Religion or belief	No	
	• Sexual orientation including lesbian, gay and bisexual people	No	
	• Age	No	
	• Disability - learning disabilities, physical disability, sensory impairment and mental health problems	No	
2.	**Is there any evidence that some groups are affected differently?**	No	
3.	**If you have identified potential discrimination, are any exceptions valid, legal and/or justifiable?**	No	
4.	**Is the impact of the procedural document likely to be negative?**	No	
5.	**If so can the impact be avoided?**	N/A	
6.	**What alternatives are there to achieving the procedural document without the impact?**	N/A	
7.	**Can we reduce the impact by taking different action?**	N/A	

If you have identified a potential discriminatory impact of this procedural document, please refer it to the Director of Human Resources, together with any suggestions as to the action required to avoid/reduce this impact.

For advice in respect of answering the above questions, please contact the Director of Human Resources.

Checklist for the Review and Approval of Procedural Document

To be completed and attached to any procedural document when submitted to the relevant committee for consideration and approval.

	Title of document being reviewed:	Yes/No	Comments
1.	**Title**		
	Is the title clear and unambiguous?	Yes	
	Is it clear whether the document is a guideline, policy, protocol or standard?	Yes	
2.	**Rationale**		
	Are reasons for development of the document stated?	Yes	
3.	**Development Process**		
	Is it clear that the relevant people/groups have been involved in the development of the document?	Yes	
	Are people involved in the development?	Yes	
	Is there evidence of consultation with stakeholders and users?	Yes	
4.	**Content**		
	Is the objective of the document clear?	Yes	
	Is the target population clear and unambiguous?	Yes	
	Are the intended outcomes described?	Yes	
5.	**Evidence Base**		
	Are key references cited in full?	N/A	
	Are supporting documents referenced?	N/A	
6.	**Approval**		
	Does the document identify which committee/ group will approve it?	Yes	
7.	**Dissemination and Implementation**		
	Is there an outline/plan to identify how this will be done?	Yes	
8.	**Document Control**		
	Does the document identify where it will be	Yes	

	Title of document being reviewed:	Yes/No	Comments
	held?		
9.	**Process to Monitor Compliance and Effectiveness**		
	Are there measurable standards or KPIs to support the monitoring of compliance with and effectiveness of the document?	Yes	
	Is there a plan to review or audit compliance with the document?	Yes	
10.	**Review Date**		
	Is the review date identified?	Yes	
	Is the frequency of review identified? If so is it acceptable?	Yes	
11.	**Overall Responsibility for the Document**		
	Is it clear who will be responsible for co-ordinating the dissemination, implementation and review of the document?	Yes	

Executive Sponsor Approval			
If you approve the document, please sign and date it and forward to the author. Procedural documents will not be forwarded for ratification without Executive Sponsor Approval			
Name		Date	
Signature			
Relevant Committee Approval			
The Director of Nursing and Patient Experience's signature below confirms that this procedural document was ratified by the appropriate Governance Committee.			
Name		Date	
Signature			
Responsible Committee Approval – only applies to reviewed procedural documents with minor changes			
The Committee Chair's signature below confirms that this procedural document was ratified by the responsible Committee			
Name		Date	
Name of Committee		Name & role of Committee Chair	
Signature			

Tool to Develop Monitoring Arrangements for Policies and guidelines

What key element(s) need(s) monitoring as per local approved policy or guidance?	Who will lead on this aspect of monitoring? Name the lead and what is the role of the multidisciplinary team or others if any.	What tool will be used to monitor/check/observe/Assess/inspect/ authenticate that everything is working according to this key element from the approved policy?	How often is the need to monitor each element? How often is the need complete a report ? How often is the need to share the report?	What committee will the completed report go to?
Element to be monitored	**Lead**	**Tool**	**Frequency**	**Reporting arrangements**
Ensure that the blood pressure is controlled and fluid balance maintained Prevention of seizures Fetal assessment and delivery planning	Ms Chandrima Biswas, Lead Obstetrician for Labour Ward	The audit tool Proforma (appendix B) will be used Case notes	As required, however, if an increase in trend analysis of patient safety incidents is identified, then this monitoring process may occur more frequently as required	Ms Biswas will read the report, findings will be reviewed at the Maternity Clinical Guidelines and Audit Group which meets monthly and then at the next Labour Ward Forum which meets quarterly Evidence to support this may be found in the form of minutes from these meetings. Recommendations and action planning for any or all deficiencies are the responsibility of Maternity Clinical Guidelines and Audit Group. These will be identified one month hence of the report being published