CLINICAL PRACTICE GUIDELINE

Hypertension in Pregnancy – midwifery care

This document should be read in conjunction with the Disclaimer

Contents

Gestational Hypertension & Pre-Eclampsia: MFAU QRG

CRITERIA FOR REFERRAL

Blood pressure ≥ 140/90mmHg on 2 occasions **at least** 30 minutes apart +/- proteinuria

ASSESSMENT

The multiple visit sheet (MR 226) is to be used each visit to record the assessment, any test results or treatments given and the plan of management.

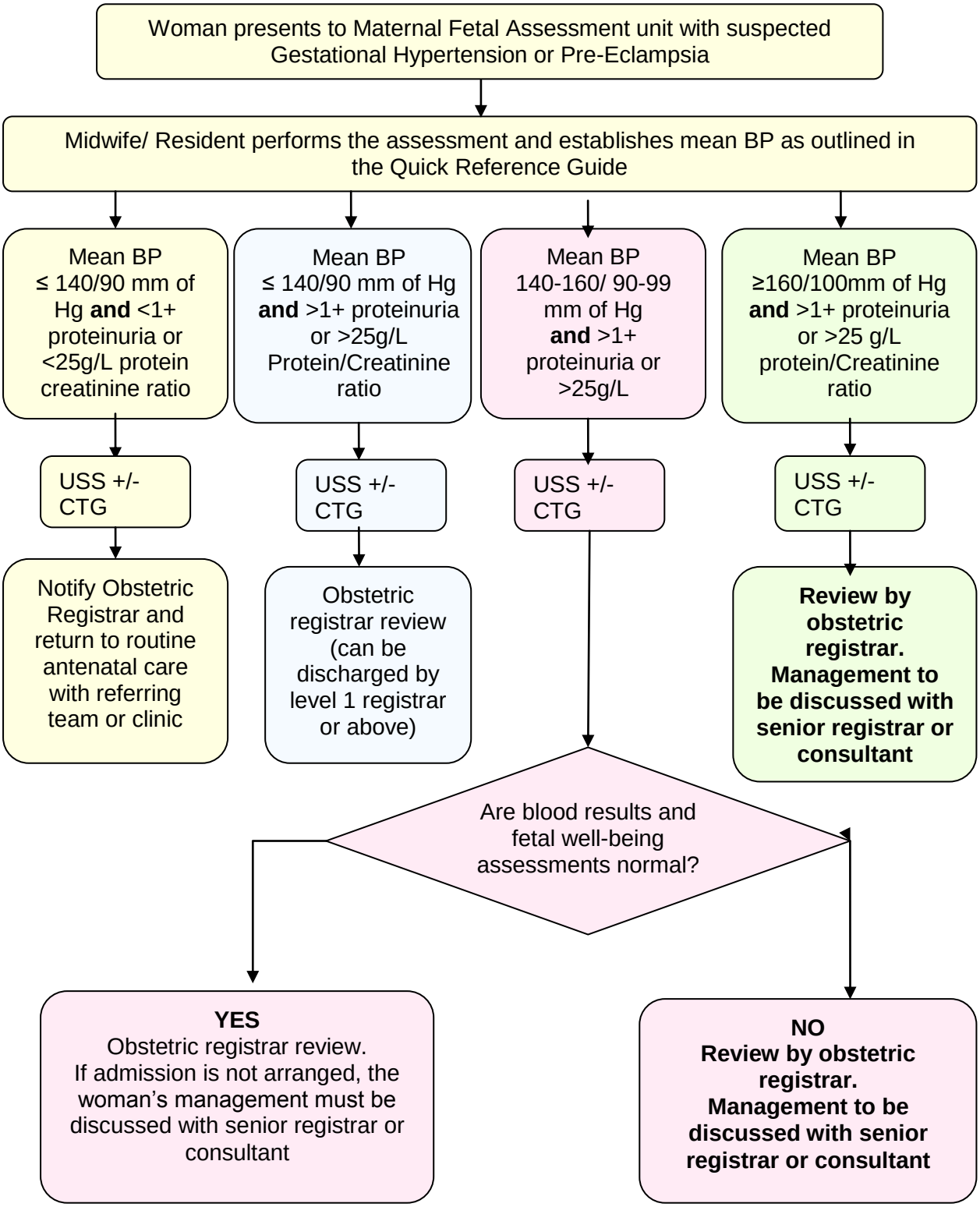
1. Assess for the following signs and symptoms. Arrange review by obstetric registrar or above, if any of the following symptoms are present:
    - headache
    - visual disturbance
    - epigastric or right upper quadrant pain
    - significant oedema
    - hyper-reflexia / clonus
    - Intrauterine growth restriction
2. Check the BP 4 times at 15-minute intervals (use K5 disappearance of sounds) and calculate the average BP.

    Note: Inform the obstetric registrar immediately if a woman has two BP recordings of ≥160mmHg systolic or ≥ 105mmHg diastolic.
3. Obtain a blood sample for:
    - Biochemistry – creatinine and electrolytes, uric acid, LDH, ALT, AST
    - FBP
    - Blood
4. Obtain an MSU for urinalysis sending a sample to Biochemistry for a spot protein: creatinine ratio where there is proteinuria of +1 or +2. **Proteinuria of magnitude +3 or +4 on dipstick is always abnormal and no laboratory confirmation is required.**
5. If the woman's gestation is ≥ 30 weeks perform a CTG and ultrasound.

    If the woman is < 30 weeks gestation, arrange an USS only.
6. Arrange **ultrasound assessment** of fetal well-being as follows:
    - First visit - fetal biometry, amniotic fluid index (AFI) and umbilical artery (UA) Doppler studies
    - Subsequent visits – weekly fetal wellbeing assessment, including AFI and UA Doppler and fetal
7. Follow flow chart on page 3 for Assessment of Gestational Hypertension and Pre-eclampsia.
8. New proteinuria of > +2 on dipstick with hypertension in late pregnancy is a sign of severity requiring hospital admission for observation, irrespective of any other test results.
9. IUGR with new hypertension is also an indication for hospital admission and usually reflects severe placental vascular disease.

See the Flowchart on the next page

Flow chart for the management of gestational hypertension and pre-eclampsia



Pre- Eclampsia – Care on the antenatal ward

Aims

- To monitor maternal and fetal wellbeing.
- To detect any deterioration in maternal and/or fetal condition in a timely manner such that appropriate action can be instigated to achieve the best possible outcome.
- To reduce maternal and fetal morbidity and mortality.

Key points

- There is no good evidence to support a policy of strict bed rest in hospital for women with mild or moderate pre-eclampsia[1].
- The consultant shall approve the woman's plan of care and these actions documented[2].
- Women admitted with hypertensive disorders of pregnancy shall be reviewed by a senior registrar or consultant at least daily (including weekends and public holidays)[3].
- Mild to moderate pre-eclampsia can deteriorate quickly to severe pre-eclampsia or eclampsia over a period of hours or days. It is therefore crucial that midwives understand the pathophysiology, investigations, and pharmacological management of pre-eclampsia[4].
- See specific Clinical Guideline sections for management of :
  - Severe pre-eclampsia
  - Eclampsia

	PROCEDURE	ADDITIONAL INFORMATION
1	**Admission** See antenatal admission for admission procedure.	
2.	**Maternal assessment**	

2.1.	***Blood pressure:***
	• Check manually and record 4 hourly.
	• Notify the medical officer immediately when:
	  • the systolic BP is ≥ 160 mmHg
	  • the diastolic BP is ≥
		Regular assessment of BP is required to detect any rise early so that appropriate treatment may be instigated. Automated blood pressure readings may only be considered once the blood pressure is stable.
		
		Although BP recordings of 160/105 are the standard values for notification, a

	105 mmHg • there is a sudden sharp rise in BP • The reportable BP level recorded in the woman's medical records is reached.	reportable value specific for a woman may be recorded in her notes. It is essential to check each woman's notes for this value.
1.2.	***Urinalysis:*** Check and record dipstick proteinuria daily. Notify the medical officer of increasing proteinuria.	Increasing vascular damage results in increasing proteinuria. This is indicative of a worsening of maternal condition[5].
1.3.	***Abdominal Examination*** Inspect the abdomen daily for discomfort or tenderness or pain. Report any abnormalities.	Discomfort or tenderness can be a sign of placental abruption[5]. Upper abdominal pain is highly significant and indicative of HELLP syndrome associated with fulminating (rapid onset) pre-eclampsia[5].
1.4.	***Assess for complications*** Assess the woman 4 hourly for, and report immediately any of the following signs and symptoms[5]: • a sharp rise in blood pressure • headache which is usually severe, persistent and frontal in location • drowsiness or confusion • visual disturbances, such as blurring of vision or blindness • diminished urinary output ± increase in proteinuria • upper abdominal pain[6] ± nausea and vomiting • hyper-reflexia • sustained clonus **Note:** Commence CTG immediately if any sudden deterioration of maternal condition or fetal heart rate abnormalities on auscultation.	Any of these signs and symptoms with or without hypertension and proteinuria indicates a worsening of maternal condition and may be indicative of impending eclampsia. -Headaches, drowsiness and visual disturbances are caused due to cerebral vasospasm. - due to renal failure[5]

1.5	***Maternal laboratory investigations*** Discuss with the woman's medical officer the need for and the frequency of laboratory evaluations (See Clinical Guideline Medical Management- Baseline Assessments).	Reduced kidney perfusion is indicated by proteinuria, reduced creatinine clearance and increased serum creatinine and uric acid[5].
2	**Fetal assessment**	
2.1	***Fetal movement:*** Assess and record 4 hourly. Report any decrease in the amount of fetal movements or any change to the usual pattern of movements.	Pre-eclampsia is associated with reduced maternal placental blood flow. This may result in intrauterine growth restriction and fetal hypoxia manifested by a decrease or change in fetal movements[7].
2.2	***Fetal heart rate:*** Assess and record BD. Report any abnormalities to the medical officer promptly.	Appraises fetal well being. Fetal heart rate aberrations may indicate fetal distress and a need for further assessment
2.3	***Cardiotocography (CTG)*** Discuss the frequency of CTGs with the medical officer.	Antepartum cardiotocography is essentially an assessment of immediate fetal condition[8]. Consult Clinical Guideline Medical Management for KEMH recommended frequency.
3	**Overnight observations** • Check and record maternal and fetal observations 4 hourly. However if the woman is sleeping, and has been stable for 48 hours, omit the 2400 and 0400 observations • Observe for signs and symptoms of Pre Eclamptic Angina[6] (PEA).	Pre Eclamptic Angina[6] (PEA) is experienced typically as a severe pain that begins **at night**, usually maximal in the low retrosternum or epigastrium, constant and unremitting for 1–6 hours. It may radiate or be confined to the right hypochondrium or back. The liver is tender on palpation. The pain may precede the diagnosis of preeclampsia by 7 days or more and may be the only abnormality on presentation such that preeclampsia is not suspected. Recognition of this characteristic symptom will lead to earlier diagnosis of preeclampsia in atypical cases, with the potential to avoid maternal and perinatal morbidity and mortality[6].

4.	**Antihypertensive Therapy** Administer antihypertensives as prescribed.	For maintenance treatment the drugs of choice are Methyldopa, Labetalol and Nifedipine. Consult Clinical Guideline Medical Management.
5.	**Corticosteroids** If preterm birth between 24 and 36+6 weeks gestation is anticipated, discuss the need for corticosteroid administration with the Medical Officer.	Deterioration in either maternal or fetal condition may necessitate preterm birth. Antenatal corticosteroid therapy substantially reduces neonatal morbidity and mortality in preterm infants through maturation of fetal lungs and through decreasing the risk of intraventricular haemorrhage[9].
6	**Education**	
6.2	Provide information on and discuss the following as appropriate: • gestational hypertension and/or pre-eclampsia • the woman's plan of care • caesarean section • preterm birth • Special Care Nursery (SCN) • method of feeding • ensure MR 212 education is complete	Where there are knowledge deficits, education can improve understanding, reduce anxiety, promote a sense of control and enhance the woman's ability to cope with the situation. Refer to KEMH Breastfeeding Policy
6.3	Repeat information as needed. Arrange visits to HIRS and SCN	Anxiety interferes with cognitive functioning and the ability to assimilate information.
7.	**Social circumstances and support** Consider referrals to the following specialists and services as appropriate: • Aboriginal Liaison Officer • Activities coordinator • Dietitian • Parent Education • Physiotherapist • Psychological Medicine • Neonatologist • Social Work • Diabetes Educator	

8.	**Documentation:** Ensure Stork data is updated – and baby notes are completed and filed (in a plastic sleeve) at the front of the woman's medical record behind the MR 004. Baby notes include: • Labour and Birth Summary (MR 230.01)name tag in a clear neonatal arm band • Neonatal history (MR 410) • Care of neonate (MR 425) Vitamin K and Hepatitis B signed consent forms.	Notes are prepared in case of an emergency birth.

Gestational Hypertension of Mild / Moderate Pre-eclampsia – Quick Reference Guide Subsequent Care on the Ward.

* Full set of observations includes Blood Pressure, Pulse, Temperature, Respiration, O2 Saturation and conscious state

Assessment and care recommended in this guide must be re-evaluated and adjusted if required, in **the event of a change in maternal or fetal condition**. Document any change.

Maternal Assessment

- **On Admission** → Full set of observations*, Urinalysis
- **4 hourly** → **Blood Pressure** If Systolic BP ≥160 or Diastolic BP ≥105 record in Pre-Eclampsia section of observation chart. Complete a full set of observations
- **BD**
  - Check for s**igns and symptoms of complications** i.e. headaches, visual disturbances, epigastric pain, nausea, drowsiness and confusion.
  - Urinalysis- if proteinuria is ≥ 1+ If proteinuria ≥ 2+ report to medical team
- **Daily**
  - Abdominal Examination- Check for discomfort, tenderness or pain. Report abnormalities
  - Urinalysis- if proteinuria is ≤ 1+
- **Overnight** → Check maternal/fetal observations 4 hourly. Observe for signs and symptoms of PEA (Pre-Eclamptic Angina) which is experienced typically at night

Fetal Assessment

4 hourly → **Fetal Movement**
Report any decrease in movement or change in usual pattern of movements

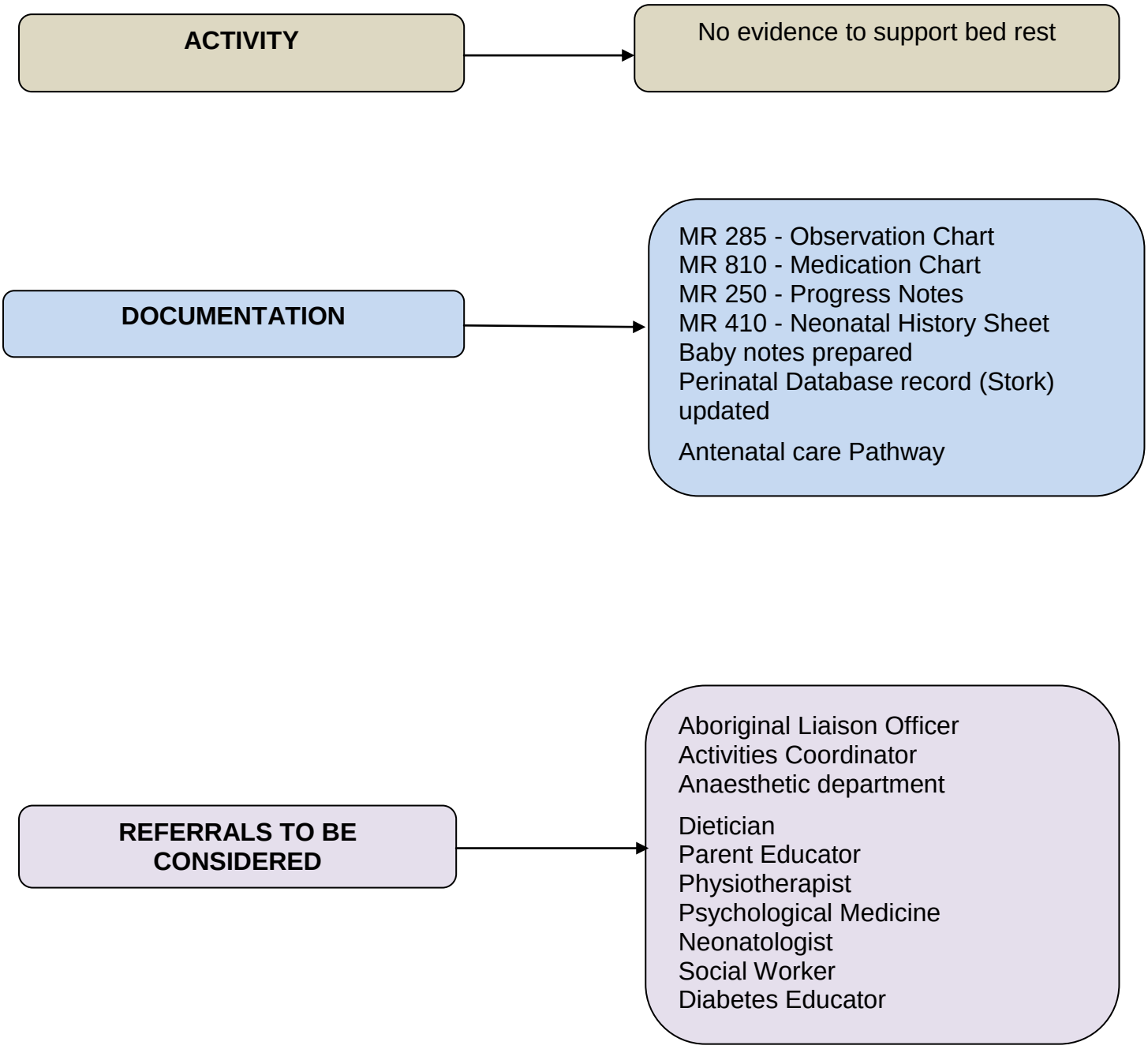
BD → **FHR**
Report abnormalities promptly

CTG

As ordered → **Immediately** if there is deterioration in the maternal condition or fetal heart rate.

PROCEDURES TO BE CONSIDERED →
Antihypertensive Therapy
Corticosteroids
Maternal laboratory investigations

EDUCATION →
Gestational hypertension and/or pre-eclampsia
Plan of care, tests and procedures
Caesarean section
Preterm birth
Special Care Nursery
Breastfeeding


ACTIVITY
No evidence to support bed rest
DOCUMENTATION
MR 285 - Observation Chart
MR 810 - Medication Chart
MR 250 - Progress Notes
MR 410 - Neonatal History Sheet
Baby notes prepared
Perinatal Database record (Stork) updated
Antenatal care Pathway
REFERRALS TO BE CONSIDERED
Aboriginal Liaison Officer
Activities Coordinator
Anaesthetic department
Dietician
Parent Educator
Physiotherapist
Psychological Medicine
Neonatologist
Social Worker
Diabetes Educator

Pre-Eclampsia (Severe)

Background

Pre-eclampsia is pregnancy induced hypertension in association with proteinuria (>0.3g in 24hours) ± oedema.

Severe pre-eclampsia is variously defined. There is consensus that severe hypertension is confirmed with a diastolic blood pressure (BP) ≥ 110mmHg[10] on two occasions[11] or systolic BP ≥170mmHg[10, 12] on two occasions and that, together with significant proteinuria (at least 1g/litre), this constitutes severe pre-eclampsia[13]. Both systolic BP and diastolic BP have been closely associated with fetal outcomes and both are important, [14] however systolic hypertension presents the greatest risk of cranial haemorrhage, and high pressures require emergency medical treatment.[15]

Severe pre-eclampsia (PE) may develop suddenly and is characterised by the following:

BLOOD PRESSURE	SBP ≥ 170mm Hg[10] and/or DBP ≥ 110mm Hg[10]
SEVERE PROTEINURIA[11]	≥ 3+ of proteinuria on dipstick[11] on two separate occasions at least 4 hours apart. Note: Preeclampsia can be diagnosed in the absence of proteinuria.[10]
OLIGURIA[11]	< 400 mL of urine in 24 hours. Kidneys that are adequately perfused produce, at minimum, 30mL of urine per hour. Observe for decreasing trends in urine output and altered renal function tests.
CEREBRAL OR VISUAL DISTURBANCES[11]	Headache, blurred vision, scotomata (a permanent or temporary area of diminished sight in the field of vision).
IMPAIRED LIVER FUNCTION[11]	Elevated liver enzymes (AST, ALT & LDH),[11] severe right upper quadrant and epigastric pain[16].
THROMBO-CYTOPENIA[11]	Platelet count < 100,000/ml
INTRAUTERINE GROWTH RESTRICTION[11]	Fetal growth which has deviated from its normal pattern. This is due to a malfunctioning placenta supplying inadequate nutrition to the fetus.[17]

HELLP is an acronym that has been applied to a syndrome encompassing haemolysis (H), elevated liver enzymes (EL) and low platelets (LP) and is a form of severe pre-eclampsia.[10, 11]

Key points

1. Women with severe PE and /or hypertensive crises shall be managed in Labour and Birth Suite (L&BS) or Adult Special Care Unit (ASCU) and not in a general ward area.[18]
2. A Consultant or the Senior Registrar shall be notified immediately of the woman's condition and shall be immediately available.[18]
3. The Consultant shall approve the woman's plan of care and these actions shall be documented.[18]

Care of the woman with severe pre-eclampsia

Severe PE is a multisystem disease associated with a high incidence of complications such as renal failure, hepatic haematoma and rupture, Disseminated Intravascular Coagulopathy (DIC), pulmonary oedema and placental abruption.[11] The midwifery care of women with severe PE and HELLP syndrome is the same.[11]

	PROCEDURE	ADDITIONAL INFORMATION
1.	Care shall be provided in a high dependency unit, i.e. ASCU or Labour and Birth Suite.	Severe PE can progress rapidly so that there is a sudden deterioration in maternal and/or fetal condition. Care in a tertiary hospital high dependency unit enables intensive maternal and fetal surveillance. Any deterioration in condition is then detected early and treatment instigated to stabilise[19].
2.	Woman shall be "Nil orally".	Aspiration of stomach contents is said to be a leading cause of maternal morbidity following eclampsia.[11] As the woman with severe PE is at risk of an eclamptic seizure and of emergency caesarean section, fasting is necessary.
3.	Insert an intravenous line. Administer IV fluids as per ordered regime. The **total IV fluids should not exceed 80mL / hr** unless there are other ongoing fluid losses (e.g. haemorrhage)[20]	As the woman is fasting intravenous fluids will need to be given to maintain hydration. A second infusion may be required for the administration of antihypertensive and anticonvulsant medication. In the past pulmonary oedema has been a significant cause of maternal death, often associated with

	PROCEDURE	ADDITIONAL INFORMATION
		inappropriate fluid management.[21] A fluid restriction regime is associated with fewer complications relating to over-transfusion.[21]
4.	Close fluid balance with charting of hourly input and output is essential.[21] A catheter with an hourly urometer is advisable.[22]	Women with severe PE are at increased risk of fluid overload and pulmonary oedema.[10] If the woman is receiving a magnesium sulphate infusion and the urine output falls to below 20ml/hour, the infusion shall be stopped and the Medical Officer informed.[22]
5.	**General Observations** **1/4 *hourly until stable and then every 30 minutes.*[22]** Blood pressure, pulse, respiratory rate, and conscious state.	See Clinical Guideline: Recognising and Responding to Clinical Deterioration.
6.	***2 hourly*** Temperature	
7.	**Oxygen saturation** Maintain continuous oxygen saturation monitoring with a pulse oximetry.	Acute pulmonary oedema has been a leading cause of pre-eclampsia related maternal mortality in the past.[21]
8.	**Deep Tendon Reflexes (DTR)** The biceps and patellar reflexes and ankle clonus are assessed and recorded, on completion of the initial loading dose of Magnesium Sulphate and then 2 hourly.	The evaluation of DTRs is especially important if the woman is being treated with Magnesium Sulphate; absence of DTR is an early indication of impending Magnesium toxicity.[11] Magnesium Sulphate is excreted by the kidneys and is a smooth muscle relaxant. Reduction or loss of tendon reflexes precedes respiratory depression, so reflexes are to be carefully monitored[23].

	PROCEDURE	ADDITIONAL INFORMATION
9.	Assess the woman for, and report immediately, any of the following signs or symptoms: • altered mental state • sudden sharp rise in BP or hypertensive episode/s (^BP ≥170/110) • oliguria, increasing proteinuria • persistent frontal headache • visual disturbances • nausea or vomiting • epigastric or right upper quadrant pain • hyper-reflexia • sustained clonus	Any of these signs and symptoms, with or without hypertension and proteinuria, indicates a worsening of maternal condition and may be indicative of impending eclampsia.[19]
10.	**Fetal Heart Rate** Maintain continuous fetal heart rate monitoring.[22] Advise Medical Officer of any abnormalities promptly.	Continuous fetal monitoring is essential to monitor the effects of hypertension on the fetus. In severe PE the fetus is affected by a restricted placental blood flow resulting in intrauterine growth restriction and hypoxia[22]. During labour, uterine contractions further reduce an already impaired oxygen supply making the intrapartum period in the woman with severe PE very hazardous to the fetus.
11.	**Antihypertensive therapy** Request orders for and administer: • Oral Nifedipine or • Intravenous Labetalol or • Hydralazine to maintain the BP at a level of ≤ 170 systolic and/or ≤ 110 diastolic.	Control of hypertension is necessary to prevent maternal and fetal complications. See Hypertension in Pregnancy: Medical Management for doses and rates of administrations See Clinical Guidelines, Section P Medications A - Z: • Nifedipine

	PROCEDURE	ADDITIONAL INFORMATION
	Note: Antihypertensive treatment should be commenced in all women with a systolic blood pressure ≥170 mm Hg or a diastolic blood pressure ≥110 mm Hg because of the risk of cerebrovascular haemorrhage and eclampsia.[12]	• Hydralazine
12.	Request orders for, and administer: • **Magnesium Sulphate**. See Complications of Pregnancy: Hypertension in Pregnancy: Magnesium Sulphate Anticonvulsant Therapy. • Observe for signs of toxicity as stated in the above guideline. **Note:** Magnesium sulphate should be considered for women with pre-eclampsia for whom there is concern about the risk of eclampsia. This is usually in the context of severe pre-eclampsia once a delivery decision has been made.[20]	Magnesium Sulphate is the therapy of choice to control seizures.[23, 25] Magnesium toxicity can be reversed by slow intravenous administration of 10% Calcium Gluconate and nasal administration of oxygen, only if there is a drop in oxygen saturation. If toxicity is not reversed, respirations must be supported until plasma magnesium levels decrease[26].
13.	**Corticosteroid therapy** If preterm birth between 24 and 36+6 weeks gestation is anticipated, seek orders to administer corticosteroids (Betamethasone) to the woman.[20]	Deterioration in either maternal or fetal condition may necessitate preterm birth. Antenatal corticosteroid therapy substantially reduces neonatal morbidity and mortality in preterm infants through maturation of fetal lungs and through decreasing the risk of intraventricular haemorrhage.[27]

Pre-Eclampsia (Severe): Care During Labour

Key points

1. Ensure clotting studies are performed when the platelet count is less than 100 x 10^9/litre.[11]
2. Confirm the platelet count is more than 100 x 10^9/litre prior to epidural insertion.
3. Aim to restrict the total fluid intake to 80ml/hour during labour unless there are other ongoing fluid losses (e.g. haemorrhage).[20]
4. The frequencies of maternal observations are adjusted according to the maternal clinical condition and medication therapy guidelines.
5. Monitor the fetal heart rate continuously with a cardiotocography (CTG) during labour.[28]
6. Administer Syntocinon 10 units intramuscular with delivery of the anterior shoulder during the third stage.
7. Avoid the use of Ergometrine or Syntometrine,[29] as they can exacerbate hypertension and are contraindicated in hypertensive women.[15]

Maternal observations

Blood Pressure (BP) Measurements

- Measure BP continually during labour[20] (15 minutely if unstable or hypertensive during labour; otherwise measure half hourly).
- Adjust BP measurements according to maternal clinical condition and use of medication therapy
- If using automated BP machines, these should be calibrated for use in pregnancy and regularly maintained as some can systematically underestimate blood pressure in pre-eclampsia[15] by at least 10mm Hg,[30] to as much as 30mmHg.[21] Additionally, automated BP readings may only be considered once the BP is stable. If using an automatic machine (for frequent BP checks e.g. 15minutely), then initially check with a manual sphygmomanometer for any differences in readings.[21] Measuring blood pressure manually is still considered the gold standard.[31]
- Cuff size: it is imperative that the appropriate cuff size is used[28]; it is better to use one that is too big than one that is too small.[32] The length of the bladder should be at least 80% (but less than 100%) of the arm circumference.[28]

Respiratory rate and Pulse Oximetry

Observation of the respiratory rate (> 14 /min) will be complimented with pulse oximetry in severe pre-eclampsia; this is a non-invasive measure of the saturation of haemoglobin with oxygen, and gives an indication of the degree of maternal hypoxia.[31]

Temperature and Pulse

Monitor temperature and pulse according to management of a woman in labour. See Care of a Woman in the First Stage of Labour

Clinical Neurological Assessment

Monitor and report to medical staff any signs of worsening hypertension or impending eclampsia. These include:

- Headaches[20, 28]

- Visual disturbances[20]
- Examination of optic fundi- gives an indication of optic vasospasm and papilloedema[20, 28]
- Hyper- reflexia or the presence of clonus[28] (significant if >3 beats) indicates cerebral irritability
- Epigastric pain and/or vomiting[20]
- Liver tenderness,[20] or upper abdominal pain associated with hepatic involvement[33]
- Drowsiness or confusion due to cerebral vasospasm[31]
- Diminished urinary output with increase in proteinuria[31]

Blood tests

If no current results are available arrange bloods tests for:

- Group and hold
- Full blood picture (FBP)
- Liver function tests (LFTs)
- Urea and electrolytes (U&Es)
- Urates
- Coagulation studies (if platelets are $<100x10^9$/L),[11] or if a current platelet count is unavailable and the woman may require epidural analgesia[31].

Fetal surveillance

Monitor the fetal heart rate continuously by cardiotocography[33] (CTG) during labour.[21] Deviations from the normal should be reported and acted upon immediately.[31]

Hydration and fluid management

- Arrange insertion of an intravenous cannula if it is not already insitu.
- Commence on a liquid diet, and advise the woman this will continue during labour and birth.

  See: Clinical Guideline Prevention of Gastric Aspiration in Obstetrics
- Limit the total fluid intake to 80 mL / per hour, unless there are other ongoing fluid losses (e.g. haemorrhage), to reduce the risk of fluid overload.[20]
- Avoid fluid preloading prior to epidural analgesia when low-dose epidural or combined spinal-epidural analgesia are utilised.[20]
- Monitor and document the fluid intake and output hourly.[28] Insert an indwelling catheter with a Curity bag attached.[28] If the urine output is less than 25mL/ hour (indicating deteriorating renal function) report findings to the resident (RMO)/Registrar on duty. **Oxytocin should be administered with caution as it has an anti-diuretic effect**.[31]
- Perform regular urinalysis (every 4 hours) for proteinuria,[28] ketones, and glucose.

Analgesia

- Epidural analgesia is an effective analgesia option for use during labour.[21] It assists with BP control,[21] and the use is associated with improved renal and uteroplacental blood flow. It facilitates rapid caesarean section should the need arise[31].

- Ensure a normal clotting screen and a platelet count[28](>100 x10^9/L). If epidural analgesia is contraindicated due to coagulopathy, sepsis or severe thrombocytopenia then the option of intravenous patient-controlled analgesia may be suitable.[33] Consider arranging an early anaesthetic consultation regarding analgesia requirement for women who may not be suitable for epidurals.
- Notify Theatre Co-ordinator and On-call Anaesthetist when a woman with severe PE is in labour.

Medication therapy for hypertension and/or eclampsia

Anti-hypertensive

Continue the use of antenatal antihypertensive medication during labour.[20, 28]

Magnesium sulphate therapy

Magnesium sulphate is the anticonvulsant drug of choice as it halves the risk of eclampsia, and probably reduces the risk of maternal death.[23, 25]

See:

- Magnesium Sulphate Anticonvulsant Therapy
- Labour and Birth Suite – Quick Reference Guide Magnesium Sulphate Anticonvulsant therapy.

Hydralazine

See:

- Clinical Guideline Hydralazine Antihypertensive Therapy
- Clinical Guideline Quick Reference Guide Hydralazine Antihypertensive Therapy.

Management for a woman with eclampsia

See: Clinical Guideline Management of the Women with Eclampsia

Birth management

- The length of the second stage is determined by the fetal and maternal clinical condition. If the woman's blood pressure is controlled within target ranges, then a normal duration of second stage (including pushing) may occur[20] An assisted delivery may be required to hasten delivery, or used to avoid maternal exertion.[31]
- Arrange for a paediatric doctor to be present for the birth.[21] See Clinical Guideline Quick Reference Guide Paediatrician attendance for at Risk Births.
- If the woman is 'high risk' for caesarean section discuss the option of anti-emetics during labour with the Obstetric Team and the Anaesthetist.

  See: Clinical Guideline Prevention of Gastric Aspiration in Obstetrics

Third stage management

Administer Syntocinon 10 units intramuscular with the birth of the anterior shoulder.

Note: Avoid the use of Ergometrine or Syntometrine as it can exacerbate hypertension.[15, 28, 29]

Post birth monitoring

Transfer the woman to the Adult Special Care Unit after birth for monitoring, until her condition is stable.[28]

The decision for postnatal transfer is made in liaison with the Obstetric and Anaesthetic Consultants.

Community Midwifery

For women who are having antenatal care in a community setting, i.e. CMP if systolic blood pressure is 140-160 or diastolic 90-100, recheck in 15minutes. If the blood pressure remains high then consult and refer to support hospital for assessment and plan. If the woman's blood pressure is above 160 systolic or 100 diastolic then consult and recommend transfer to support hospital via ambulance.

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