Reference Number: UHBOBS215 Version Number: 1	Date of Next Review: 30 May 2028 Previous Trust/LHB Reference Number:

Standard Operating Procedure for Placental Growth Factor Testing (PGIF)

Introduction and Aim

Pre-eclampsia is a condition known to cause serious and life-threatening maternal and fetal complications. Patients with suspected pre-eclampsia have increased monitoring in the form of hospitalisation, multiple hospital visits, and investigations. This can lead to increased intervention in women who may not develop pre-eclampsia during the pregnancy.

This SOP applies to women between 20 weeks and 35 weeks and 6 days period of gestation who present with clinical suspicion of pre-eclampsia.

Objectives

The Triage PLGF Test (Quidel Test) is used as a point of care test, in conjunction with other clinical information, to help diagnose preterm pre-eclampsia. It can also help in decision making around trimming of birth in women who are between 20 weeks and 35 weeks + 6 days pregnant with signs and symptoms of pre-eclampsia.

Scope

This procedure applies to all employed by Cardiff and Vale University Health Board,

Equality Health Impact Assessment	An Equality Health Impact Assessment has not been completed.
Documents to read alongside this Procedure	
Approved by	Maternity Professional Forum

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Disclaimer

If the review date of this document has passed please ensure that the version you are using is the most up to date either by contacting the document author or the Governance Directorate.

The PGIF test is accurate and cost-effective compared with standard assessment when used to help diagnose or exclude preterm pre-eclampsia. NICE guidance recommends the use of the PlGF test to help plan safe care and safe birth for people with pre-eclampsia and to identify people unlikely to develop pre-eclampsia and therefore reduce unnecessary hospitalisation and testing.

Where: This is a Point of Care test that is available in the Obstetric Assessment Unit. The test can only be run by OAU staff who have completed training in when and how to do so. The result is available in 30 minutes. The SOP and flowchart for use of the Quidel PlGF test is within training materials on OAU.

When: A single PlGF test should be considered for women from 20 weeks to 35 weeks + 6 days gestation in the following circumstances:

- Women with chronic hypertension with or without proteinuria in whom there is clinical uncertainty about whether PET is developing
- Women with gestational hypertension in whom there is clinical uncertainty about whether PET is developing
- Women with proteinuria in whom there is clinical uncertainty about whether PET is developing
- Women with fetal growth restriction likely due to placental insufficiency in whom there is clinical uncertainty about whether PET is developing

Note: The PlGF test is NOT recommended for women with multiple gestation.

Presently NICE guideline recommends PlGF testing only once during pregnancy for the evaluation of preterm pre-eclampsia. Repeat testing is being studied in the PARROT 2 trial.

Decision for PlGF test to be made by ST6 or above.

INDICATIONS

Presentation **between 20 – 34+6 weeks**

- ISOLATED NEW HYPERTENSION (>140/90mmHg)
- BORDERLINE PROTEINURIA (30-50mg/mmol)
- WORSENING CHRONIC HYPERTENSION /PROTEINURIA IN PREEXISTING RENAL DISEASE/DIABETES
- ADJUNCT TO CASES WITH PREECLAMPSIA to decide who is likely to need delivery within next two weeks

	PIGF ≥100 NORMAL	PIGF 12-99 LOW	PIGF <12 VERY LOW
Interpretation	Test negative – normal. Pre-eclampsia ruled out. Highly unlikely to need delivery due to pre-eclampsia within 14 days.	Test positive – abnormal. Pre-eclampsia not ruled out. Increased risk for preterm delivery.	Test positive - highly abnormal. Assess as pre-eclampsia. Increased risk for preterm delivery.
What does it mean?	98% of patients who are in this green range will not need delivery for pre-eclampsia within 14 days.	A PIGF test result <100 pg/ml will correctly identify 95-96% of patients with pre-eclampsia who need delivery within 14 days.	Group at highest risk of preterm delivery and fetal growth restriction. 94% of patients presenting before 35 weeks with PIGF <12 pg/ml will give birth preterm.
Median time to delivery	< 35 weeks: 62 days 35-37 weeks: 16 days	< 35 weeks: 23 days 35-37 weeks: 9 days	< 35 weeks: 9 days 35-37 weeks: 4 days
Plan	Continue with antenatal care as clinically indicated in combination with NICE guidance above	Consider increased surveillance, with regular monitoring and fetal ultrasound if indicated.	Assess as 'pre-eclampsia' (regardless of proteinuria) with increased surveillance and fetal ultrasound as indicated.

***Increased surveillance: Move one step up in the table below for the care provided according to the degree of hypertension as per NICE guidance. Low or Very Low PlGF is not an indication for delivery in itself**

Management	Hypertension	Severe Hypertension
Admission to hospital	Admit if clinical concerns for the wellbeing of mother or baby or if high risk for adverse events	Admit but if BP falls below 160/110 then manage as for hypertension
Antihypertensive	Offer labetalol if BP remains above 140/90 Nifedipine or methyldopa if labetalol not suitable	Offer antihypertensive treatment to all. Labetalol first line unless not suitable then either nifedipine or methyldopa
Target BP	135/85 or less	135/85 or less
BP measurement	Every 48hrs as outpatient Four times daily as inpatient	Every 15-30minutes until BP less than 140/90 then four times a day as an inpatient
Proteinuria testing	At diagnosis and only repeat if uncertainty over diagnosis or clinically indicated	At diagnosis and only repeat if uncertainty over diagnosis or clinically indicated
Blood tests	Full blood count, liver function and renal function twice per week	Full blood count, liver function and renal function three times per week
Fetal assessment	FHR auscultation at each antenatal appointment CTG at diagnosis (if >26/40) and then only if clinically indicated USS Growth, amniotic fluid volume and umbilical artery Doppler at diagnosis and if normal repeat every two weeks	FHR auscultation at each antenatal appointment CTG at diagnosis (if >26/40) and then only if clinically indicated USS Growth, amniotic fluid volume and umbilical artery Doppler at diagnosis and if normal repeat every two weeks