

Preeclampsia Definition & Patient Selection Criteria

When should I determine the sFlt-1/PlGF ratio? (pregnancy week 20+0)

1. Clinical suspicion of preeclampsia: Women with signs & symptoms

New definition of preeclampsia^{1,2} (after 20 weeks of gestation)

Hypertension (new onset):

Systolic \geq 140 mmHg

Diastolic \geq 90 mmHg

AND

Proteinuria > 300 mg / 24 h collection (or 1+ by dipstick urinalysis)

OR

in **absence of proteinuria** one or

more of the following

- Thrombocytopenia
- Renal insufficiency
- Impaired liver function
- Pulmonary edema
- Cerebral or visual symptoms

2. Unclear Diagnosis of preeclampsia: Women with non-specific signs & symptoms

High risk women²

1. Chronic hypertension
2. Renal disease
3. Hypertension in previous pregnancies
4. Autoimmune disease
5. Type 1 – 2 Diabetes
6. Thrombophilia

Medium risk women²

1. First pregnancy
2. Multiple pregnancy
3. Pregnancy interval of more than 10 years
4. Diastolic blood pressure 80 mmHg at first visit
5. Proteinuria at first visit
6. Long term medical condition
7. Age 40 or over
8. Pregnancy interval of more than 10 years
9. BMI > 35
10. Family history of preeclampsia
11. Previous preeclampsia
12. Long term medical condition

3. Women without signs & symptoms but with increased risk for PE

1. Altered Doppler ultrasound of uterine arteries after 20 – 24 weeks of gestation
2. Women identified to be at high risk via **1st trimester screening for preeclampsia** (according to FMF guidelines)

References

- 1 NICE (2011). *Hypertension in pregnancy: the management of hypertensive disorders during pregnancy.*
- 2 American College of Obstetricians and Gynecologists (2013). *Task Force on Hypertension in Pregnancy.*

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What does the sFlt-1/PlGF ratio tell me?

Reassuring woman and avoiding unnecessary stress and hospitalization.⁴ The Roche Elecsys® sFlt-1/PlGF was found to aid in the prediction and diagnosis of PE using selected cut-offs:¹⁻³

sFlt-1/PlGF ratio ≤ 38



Short-term prediction
Rule-out PE for 1 week



The patient will not develop PE for at least 1 week (99.3% NPV)

sFlt-1/PlGF ratio
>38 – <85 (early-onset PE[†]) or
>38 – <110 (late-onset PE[‡])



Short-term prediction
Rule-in PE within the next 4 weeks



Patient is likely to develop PE within the next 4 weeks (36.7% PPV)

sFlt-1/PlGF ratio
 ≥ 85 (early-onset PE[†]) or
 ≥ 110 (late-onset PE[‡])



Diagnosis*



Highly suggestive of PE
Or another form of placental insufficiency

[†]Early-onset PE: 20 – <34 weeks gestation; [‡]Late-onset PE: ≥ 34 weeks gestation; *Use in addition to other accepted diagnostic tools and clinical information; NPV: negative predictive value; PPV: positive predictive value

Using the sFlt-1/PlGF ratio, **8 of 10 pregnant women** at risk for preeclampsia, **could be ruled out.**⁴

References

- 1 Zeisler, H. et al. (2016). *N Engl J Med* 374, 13-22.
- 2 Verloren, S. et al. (2010). *Am J Obstet Gynecol* 202(2), 161.e1-161.e11.
- 3 Verloren, S. et al. (2014). *Hypertension* 63(2), 346-52.
- 4 Stepan et al. (2015). *Ultrasound Obstet Gynecol* 45, 241-24.