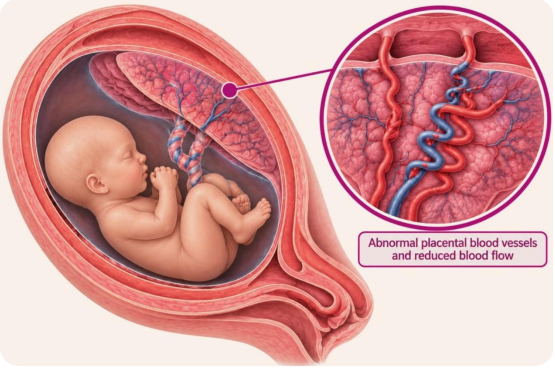
FIRST TRIMESTER · PATIENT INFORMATION

Pre-eclampsia Screening at 12 Weeks: Can We Predict and Prevent It?

How screening at 11 to 13 weeks identifies women at higher risk of pre-eclampsia, and how aspirin can reduce the chance of it developing early.

Pre-eclampsia is one of the most important complications of pregnancy. Until recently, it could only be recognised once it had developed.

Screening in the first trimester now means that many women at increased risk can be identified at 11 to 13 weeks, before the condition develops, and offered treatment that greatly reduces the chance of it occurring early.



Abnormal development of the placental blood vessels

KEY POINTS

- Screening at 11 to 13 weeks combines your history, blood pressure, uterine artery Doppler and a blood test (PIGF or PAPP-A).
- It identifies around 75 in 100 women who develop preterm pre-eclampsia, and more of those who need delivery before 34 weeks.
- For women at high risk, aspirin 150 mg at night from 11 to 14 weeks until 36 weeks reduces preterm pre-eclampsia by about 62%.
- Screening estimates risk; it does not diagnose pre-eclampsia, and routine antenatal checks remain essential.

What is pre-eclampsia?

Pre-eclampsia is high blood pressure, usually after 20 weeks, together with signs that the pregnancy is affecting organs such as the kidneys, liver or brain, or the placenta. It affects about 2 to 5 in 100 pregnancies. Pre-eclampsia needing delivery before 37 weeks is called **preterm pre-eclampsia**. The earlier it develops, the more serious it tends to be, with risks such as poor growth of the baby, premature birth and, in severe cases, seizures (eclampsia) or HELLP syndrome.

The only definitive treatment for established pre-eclampsia is delivery of the baby and placenta, although medication and close monitoring help manage it.

Why does it develop?

In early pregnancy, the placenta develops a network of blood vessels to supply oxygen and nutrients to the baby. In some pregnancies, these vessels adapt less effectively, which reduces blood flow to the placenta and releases substances that affect the mother's blood vessels and organs. These changes begin long before blood pressure rises, which is why the risk can be assessed at 11 to 13 weeks.

How is screening done?

We use the Fetal Medicine Foundation (FMF) model, which gives you an individual risk, for example 1 in 50 or 1 in 500. It combines four parts, all assessed at your 12-week appointment:

1. **Your history:** age, weight and height, previous pregnancies, family history, medical conditions and whether you conceived by IVF.
2. **Mean arterial pressure:** blood pressure measured in both arms with validated equipment and a standard technique.
3. **Uterine artery Doppler:** the resistance to blood flow in the arteries supplying the placenta, measured during the scan.
4. **A blood test:** placental growth factor (PlGF) or PAPP-A. Lower levels are linked with a higher risk.

Pre-eclampsia needing delivery	Approximate detection
Before 34 weeks	85–90%
Before 37 weeks	About 75%
At or after 37 weeks	Lower

Research estimates at a screen-positive rate of about 10%, not a guarantee for every pregnancy.

Can pre-eclampsia be prevented?

Yes. In a large study (ASPRE trial), aspirin 150 mg each night, started at 11 to 14 weeks and continued until 36 weeks, reduced preterm pre-eclampsia from 4.3% to 1.6%, a reduction of about 62%. Aspirin works best when started early, ideally before 16 weeks. For women at high risk, we recommend 150 mg at night, ideally started at 12 to 13 weeks. Aspirin should not be started without medical advice, particularly if you have an allergy, a bleeding disorder or another reason not to take it.

How is this different from routine NHS assessment?

In routine care, risk is assessed from your history, and NICE recommends aspirin for women with certain risk factors. This is important, but risk factors alone do not identify everyone who goes on to develop pre-eclampsia. Combined screening adds objective measurements to give an individual risk. A low-risk screening result should not override an existing reason for aspirin.

What does my result mean?

A high-risk result means your estimated risk is above the screening threshold; it does not mean pre-eclampsia will develop. We will agree a plan, which may include aspirin, blood pressure checks and growth scans, and share it with your NHS maternity team. Most women with a high-risk result do not develop preterm pre-eclampsia.

A low-risk result is reassuring, but pre-eclampsia can still occur, particularly later in pregnancy, so routine antenatal checks remain essential.

Symptoms to look out for later in pregnancy



Symptoms of pre-eclampsia

Pre-eclampsia does not cause symptoms at 12 weeks. Later in pregnancy, seek urgent medical advice if you develop a severe or persistent headache, blurred vision or flashing lights, severe pain below the ribs, sudden swelling of the face, hands or feet, or feel very unwell, particularly with nausea or vomiting. Pre-eclampsia can also develop without symptoms, which is why blood pressure and urine checks matter throughout pregnancy.

Book an appointment

Pre-eclampsia screening is part of our consultant-led 12-week assessment. Where your risk is increased, we advise on aspirin and follow-up and share our recommendations with your NHS team.

Call: 01732 647072

WhatsApp: 07572 929888

Email: appointments@thepregnancyclinic.com

Online: thepregnancyclinic.com

Our 12-week scan

Our website

Urgent concerns: we provide planned appointments only. If you have symptoms of pre-eclampsia, pain, bleeding or any other urgent concern, please contact your maternity unit or NHS 111 straight away.
Or call 999 in an emergency.

Authored by	**Professor Akolekar**, Consultant in Fetal Medicine and Obstetrics The Pregnancy Clinic
Leaflet	Pre-eclampsia Screening at 12 Weeks: Can We Predict and Prevent It?
Version	Version 1.0
Date of issue	November 2026
Next review	November 2029

This leaflet gives general information and does not replace individual medical advice. Please ask us if you would like it in another format.

References

1. Akolekar R, Zaragoza E, Poon LC, Pepes S, Nicolaides KH. Maternal serum placental growth factor at 11+0 to 13+6 weeks of gestation in the prediction of pre-eclampsia. Ultrasound Obstet Gynecol 2008;32:732–739.
2. Akolekar R, Syngelaki A, Poon L, Wright D, Nicolaides KH. Competing risks model in early screening for preeclampsia by biophysical and biochemical markers. Fetal Diagn Ther 2013;33:8–15.
3. O'Gorman N, Wright D, Syngelaki A, et al. Competing risks model in screening for preeclampsia by maternal factors and biomarkers at 11–13 weeks gestation. Am J Obstet Gynecol 2016;214:103.e1–e12.
4. Rolnik DL, Wright D, Poon LC, et al. Aspirin versus placebo in pregnancies at high risk for preterm preeclampsia. N Engl J Med 2017;377:613–622.
5. Tan MY, Syngelaki A, Poon LC, et al. Screening for pre-eclampsia by maternal factors and biomarkers at 11–13 weeks' gestation. Ultrasound Obstet Gynecol 2018;52:186–195.
6. National Institute for Health and Care Excellence. Hypertension in pregnancy: diagnosis and management (NG133).