



Low Pregnancy Associated Plasma Protein-A (PAPP- A) in pregnancy

As part of your first trimester screening for Downs, Edward and Patau's syndrome we routinely measure a hormone in your blood called PAPP-A.

We have found this hormone to be at a lower level in your blood; this is found in 1 in 20 (5%) pregnancies. It is most likely your pregnancy will progress normally, however there is a slightly increased chance that you may have a small baby.

What is PAPP-A?

Pregnancy Associated Plasma Protein-A (PAPP-A) is a hormone that is produced by the placenta in pregnancy.

It is one of two hormones that are measured during the 12 week combined screening test. Low levels of PAPP-A can be associated with Down's Syndrome. If your baby has an increased risk for Down's Syndrome, one of the antenatal screening midwives will have contacted you before sending you this leaflet.

Studies have shown that low PAPP-A may also be associated with low birth weight babies and early deliveries. Because of this, national guidelines suggest that extra scans should be considered to check the growth of babies when a low PAPP-A level has been found.

What is a normal PAPP-A level?

You will have noticed on your combined test report that the two hormones are listed as a concentration (IU/L) and as a MoM value. MoM stands for multiple of the median, or average, of everyone's results.

A MoM of 1.00 is average; higher than 1.00 is above average; and lower than 1.00 is below average. We will recommend additional screening of your baby if your PAPP-A levels are below 0.415 MoM, as these are more likely to be associated with smaller babies.

What happens now?

If you are not allergic to aspirin and do not have any of the conditions listed below, we will recommend taking aspirin during your pregnancy.

But not if you have: asthma, active peptic ulceration, bleeding disorders (antiplatelet dose), children under 16 years (risk of Reye's syndrome), haemophilia, previous peptic ulceration, severe cardiac failure.



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Otherwise, we will recommend that you commence aspirin 150mg once per day. This is best taken once daily, in the evening, made up of two 75mg tablets.

Taking aspirin in pregnancy can help reduce the risk of pre-eclampsia and help your baby grow to its full potential.

When should I start taking aspirin?

You should start taking aspirin from eight weeks pregnant until 36 weeks. If you go into labour before 36 weeks, stop taking the aspirin immediately and advise your midwife. If you are already over eight weeks pregnant, just start taking the aspirin as soon as possible.

Why should I take aspirin?

Research has shown that aspirin can help to reduce the risk of pre-eclampsia developing in women who are at risk, and it can also reduce the risk of having a small baby if you have had a small baby before. Aspirin helps to improve the blood flow to the baby during the early stages of pregnancy and this can help the baby grow to its full potential.

What is pre-eclampsia?

Pre-eclampsia occurs if you develop high blood pressure in the presence of additional factors – including increased protein levels in your urine and/or abnormal blood tests. It may make you feel unwell with:

- Headaches
- Changes in your vision
- Pain in your upper abdomen
- Vomiting
- Excessive swelling

Not all of these symptoms need to be present to develop pre-eclampsia.

What are the side effects of aspirin?

Aspirin in rare circumstances can cause bleeding from the stomach lining. However, studies on the effects of low-dose aspirin on foetal and maternal health and development are reassuring, and low doses of aspirin administered during the first 12 weeks of pregnancy do not seem to constitute a risk for the foetus (Atallah 2017).

Who should take aspirin?

At booking your midwife will complete a pregnancy questionnaire to identify any risk factors for pre-eclampsia or of having a small baby. If you are identified as at risk, your obstetrician or midwife will prescribe you aspirin to take; the table below will highlight the conditions where aspirin therapy is recommended.



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Women with any ONE of the following risk factors should be prescribed aspirin 150mg until 36 weeks gestation.	Tick	Women with any TWO of the following risk factors should be prescribed aspirin 150mg until 36 weeks gestation.	Tick
Hypertensive disease during a previous pregnancy (High Blood Pressure) Chronic hypertension (BP >135/85mmHg in the first trimester)		First pregnancy	
Previous pregnancy <3 rd centile (Previous very small baby)		Age 40 years or older	
Type 1 or Type 2 Diabetes		Pregnancy interval of more than 10 years	
Chronic kidney disease		BMI of 35kg/m ² or more at the first visit	
Autoimmune disease such as lupus erythematosus (SLE) or antiphospholipid syndrome		Family history of pre-eclampsia	
Still birth due to placental problems		Multiple pregnancy	

When will I be seen and have the growth scan?

We will arrange for you to have a uterine artery Doppler at approximately 22 weeks. The uterine arteries are the vessels that carry blood to your womb (Uterus) and the Doppler will enable us to check the blood flow between you and your baby. The Doppler uses sound waves which are completely safe to measure if the blood is flowing easily. Low resistance means that a good amount of blood is reaching your baby, helping it to continue to grow well.

We will ask you to come to Women’s Health Outpatients to meet with one of our doctors, to go through your result and answer any questions you may have. We have included your appointment letter with this leaflet.

The doctor will review your results and arrange for growth scans in the last part of your pregnancy.

Every pregnant woman should have an individualised GROW chart attached to her handheld notes. From 25 weeks your midwife will measure your bump and plot the measurement on the chart. The chart will show if your baby is growing as expected. If there are any concerns, your midwife will refer you to the Day Assessment Unit for an additional growth scan.

Is there anything I can do help my baby to grow well?

If you smoke, it is extremely important that you stop. Smoking can affect the placenta and the baby’s growth. Your midwife can refer you for help to stop smoking or you can refer yourself to Live well Swindon 01793 465513 available Monday to Thursday from 9.00am to 5.00pm and Friday from 9.00am to 4.30pm www.quit4life.nhs.uk



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Who can I speak to if I need further information?

You are welcome to telephone one of the antenatal screening midwives or your community midwife if you have any queries or concerns.

Receiving the news that you have low PAPP-A levels may cause anxiety but please be assured that the majority of babies will have normal growth.

For those babies that are found to be small you will have the re-assurance of close surveillance with the team in the Day Assessment Unit and the Obstetricians.

Useful contacts:

Community Midwives

01793 604020 ask for bleep 1583 available 24 hours a day

Antenatal Screening Midwives

01793 607311

Mondays to Fridays from 08.30 am to 6.30 pm (excluding bank holidays)

Maternity Day Assessment Unit

01793 604825, 08.00am to 20.00pm, 7 days a week

Other information

The Investigation and Management of the Small-for-Gestational-Age Fetus.
Green-top Guideline No. 31:

https://www.rcog.org.uk/globalassets/documents/guidelines/gtg_31.pdf

Saving babies' Lives – Version Two

A care bundle for reducing perinatal mortality. NHS England 2019

<https://www.england.nhs.uk/publication/saving-babies-lives-version-two-a-care-bundle-for-reducing-perinatal-mortality/>

Research Article supporting use of Aspirin in Pregnancy:

<https://www.nejm.org/doi/10.1056/NEJMdo005183/full/>

Smoking will not be permitted on any NHS site in England. Smoking will not be permitted within any of our buildings or anywhere outside on our sites. Smoking facilities will not be provided. Please be considerate of others when vaping in hospital grounds

This information sheet is available to order in other languages and formats. If you would like a copy, please contact us on 01793 604031 or email gwh.pals@nhs.net

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