First trimester pre-eclampsia screening with PIGF and PAPP-A

**Pre-eclampsia**
- Multisystem, life-threatening pregnancy related disorder
- Incidence: 2-8% of pregnancies
- Definition: New onset of hypertension and proteinuria >20 weeks of gestation
- Short-term complications: HELPP-syndrome, eclampsia
- Long-term complications: Increased risk for cardiac and other complications later in life

**Cause**
The cause of pre-eclampsia is unknown, but the placenta has been identified as is the central organ in pathogenesis.

**Classification**
- Early-onset pre-eclampsia:
  - Clinical onset of disease <34 weeks of gestation
  - Rapid progression, multiple complications
- Late-onset pre-eclampsia:
  - Clinical onset of disease >37 weeks of gestation
  - Impact on fetus less severe

**Intervention with low dose aspirin**
- Study results:
  - Use of low dose aspirin can reduce incidence of pre-eclampsia by 50-90%
  - Low dose aspirin: 75-150 mg/day
  - Start of aspirin therapy: <16 weeks of gestation

**Pre-eclampsia screening strategy**
Combination of multiple biophysical and biochemical measurements as well as maternal risk factors:

1. Maternal characteristics including medical and obstetric history
2. Serum Biomarkers PAPP-A and PIGF
3. Mean arterial blood pressure (MAP)
4. Uterine artery pulsatility index (UAPI)
5. Risk assessment with appropriate PNS software to calculate individual risk to develop pre-eclampsia

- Pre-eclampsia screening performance achieves a detection rate > 90% at a false positive rate of 10%
- Risk assessment for fetal trisomies and maternal pre-eclampsia can be performed at the same time

**Benefits of early pre-eclampsia screening (weeks 11-13+6)**
- Early identification of women at risk for pre-eclampsia allows for timely intervention with low dose aspirin (<16 weeks) to significantly reduce the incidence of pre-eclampsia
- Early screening allows for closer monitoring of high risk patients for optimal patient care
High-sensitive biomarkers to improve early pre-eclampsia screening

**B·R·A·H·M·S PlGF plus KRYPTOR**
Thermo Scientific™ B·R·A·H·M·S™ PlGF plus KRYPTOR™ is an automated immunofluorescent assay for the quantitative determination of the concentration of PlGF-1 in human serum and EDTA plasma.
- CE mark for trisomy and pre-eclampsia first trimester screening
- FAS: 6.7 pg/mL – reliably measuring very low clinical values in first trimester
- Very low cross-reactivity to PlGF-2 (13%) and PlGF-3 (4%)
- Onboard stability: 29 days
- Short incubation time: 29 minutes

**B·R·A·H·M·S PAPP-A KRYPTOR**
Thermo Scientific B·R·A·H·M·S PAPP-A KRYPTOR is an automated immunofluorescent assay for the determination of pregnancy associated plasma protein-A (PAPP-A) in human serum and heparin plasma.
- CE mark for trisomy and pre-eclampsia first trimester screening
- FAS: 0.01 IU/L
- Outstanding precision: UK NEQAS data 2003-2016 prove a mean CV of only 3.1%
- Onboard stability: 29 days
- Short incubation time: 19 minutes

**Software based on the FMF algorithm for first trimester pre-eclampsia risk calculation**
- **B·R·A·H·M·S Fast Screen pre I plus 3.0**
- **B·R·A·H·M·S PlGF plus KRYPTOR** and **B·R·A·H·M·S PAPP-A KRYPTOR** medians are integrated in Astraia (V 1.23.5 or higher) and View Point (V 5.6.20 or higher) software

A software based on the FMF algorithms fulfills the highest quality standards for an effective and reliable risk calculation.

**Benefits of B·R·A·H·M·S PlGF plus and PAPP-A KRYPTOR**
- Highest assay sensitivity and quality for reliably predicting pre-eclampsia and fetal trisomy 21 in first trimester of pregnancy
- Indicated to be used in first trimester screening for pre-eclampsia and trisomy 21

Find out more at [thermoscientific.com/brahms](http://thermoscientific.com/brahms)