Enhanced First Trimester Screening- First trimester Quadruple Test (FTS)

What is Enhanced FTS?

Enhanced FTS is a new first trimester screening test that uses 4 serum markers plus the nuchal translucency (NT) measurement, along with maternal age to generate a pregnancy specific risk for chromosomal abnormalities in the baby, risk of your baby having an open neural tube defect along with the risk of having high blood pressure during the course of pregnancy course(Pre-eclampsia) possibility of having small baby (Fetal Growth Restriction).

The two new serum markers that are analyzed include placental growth factor (PlGF) and first trimester alpha fetoprotein (AFP) in addition to PAPP-A and beta hCG.

What does the procedure involve?

The first trimester screening test combines your age and other characteristics specific to your pregnancy like weight, past history of chromosomal abnormalities, blood pressure measurement and NT scan findings with a blood test. The blood test is typically done on the same day as the ultrasound. The computer software combines all the above and gives a numerical estimate of the chance of having a baby with Down syndrome, such as 1:2000 or 1:8.

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Condition	*Background risk*	*Adjusted risk*
Trisomy 21	1: 367	1: 7330
Trisomy 18	1: 4326	<1: 20000
Trisomy 13	1: 10183	<1: 20000
Preeclampsia before 34 weeks		1: 795
Preeclampsia before 37 weeks		1: 194
Preeclampsia before 42 weeks		1: 35
Fetal growth restriction before 37 weeks		1: 154
Spontaneous delivery before 34 weeks		1: 348

The background risk for aneuploidies is based on maternal age (35 years). The adjusted risk is the risk at term, calculated on the basis of the background risk, ultrasound factors (fetal nuchal translucency thickness, nasal bone, fetal heart rate) and maternal serum biochemistry (PAPP-A, free beta-hCG, PlGF).

Is enhanced FTS a good test?

By including the two new markers, enhanced FTS is an improvement over FTS. It has been shown to have a detection rate that is comparable to integrated prenatal screen (IPS). We estimate a detection rate of about 90%.

For those who have a positive screen result, they can further evaluate the risk with Non-Invasive Prenatal Testing (NIPT) or confirm the chromosomal abnormality by diagnostic invasive testing like chorionic villus sampling/amniocentesis.

In addition it gives a risk estimate of pre-eclampsia and fetal growth restriction which can be avoided to a certain extent by prescribing Tablet Aspirin 150 mg to the mother.

When can FTS be done?
The ultrasound and blood test are done between 11 weeks and 13 weeks + 6 days of pregnancy.

When will the results be available?
The results of the Extended FTS will be sent to you via e-mail in about 10 working days. Hard copy can be collected within 1 month. Results are categorized as either screen positive or screen negative. If the result is positive, then you will be called for a consultation to discuss the results and the options for further testing.

What kind of results should I expect?
If the test indicates that the chance of having a baby with Down syndrome is greater than 1/250, the result is called screen positive. The test will also indicate a screen positive result if the chance of having a baby with Trisomy 18 or Trisomy 13 is greater than 1/100.

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If the risk for developing pre-eclampsia before 34 weeks/fetal growth restriciton is > 1:100 then it is screen positive.The mother will be advised to take Tablet Aspirin 150 mg once daily at bedtime after fodd till 36 weeks of pregnancy.

How does the Enhanced first trimester report look like?

Scan Date: 10-07-2019 **Gest. at scan date:** 12 Weeks 6 Days

CRL	CRL2	BPD	BPD2	HC	HC2
65.1 mm					

Test Name	Conc.	Unit	CorrMoM
hCGb	41.80	ng/mL	1.25
AFP	13.00	U/mL	1.03
PLGF	66.30	pg/mL	1.34
NT	2.2	mm	1.35
PAPP-A	3480.00	mU/L	1.02

RISKS

Disorder :	**Down's syndrome**			**Result:**	**Low**
Final risk:	1:9741	**Age risk:**	1:536		
Cutoff:	1:250	**Risk type:**	Risk At Term	**Status:**	Signed
Disorder :	**Edwards' syndrome**			**Result:**	**Low**
Final risk:	1:100000	**Age risk:**	1:4822		
Cutoff:	1:100	**Risk type:**	Risk At Term	**Status:**	Signed
Disorder :	**Patau's syndrome**			**Result:**	**Low**
Final risk:	1:100000	**Age risk:**	1:14473		
Cutoff:	1:100	**Risk type:**	Risk At Term	**Status:**	Signed

What diagnostic tests are available if the result is positive?

If your prenatal screening test is positive you will have to decide whether to have a diagnostic test to determine if the baby truly has Down syndrome, Trisomy 18, Trisomy 13 or another chromosome abnormality. To find out for sure if your baby has one of these conditions, chorionic villus sampling (CVS) is usually done at our center between 11 & 14 weeks or amniocentesis after 16 weeks.