



FIRST
TRIMESTER

Combined screening



Dear Colleague

It is with great pleasure that **Waikato Radiology**, 47 Pembroke Street, Hamilton, is offering, for the first time in New Zealand, first trimester biochemical screening for chromosomal abnormalities.

As you are aware, since the early 1990s there have been great advances in screening for fetal abnormalities and chromosomal problems in the way of Nuchal Translucency (NT) measurement and other complimentary markers, such as free Beta HCG & PAPP-A and assessment of nasal bone and ductus venosus of the fetus between 11 and 14 weeks.

The Fetal Medicine Foundation (FMF), London, has made great progress in improving the detection rate for Down syndrome by adding further markers to the parameters of maternal age and NT to improve detection rate (DR) to 95%, with a false positive rate (FPR) of 5%. This is a well-monitored and audited screening programme.

One of the important complementary tests is first trimester biochemical markers - namely free Beta HCG and PAPP-A which can be added to increase the sensitivity and specificity of the currently used NT scan. We at Waikato Radiology, Hamilton, are proud to offer this first trimester biochemical screening test to all women in New Zealand who wish to add this test to their NT scan to improve DR for chromosomal abnormalities. The test is at present privately funded at a cost of \$120.00 inclusive of GST.

Maternal blood needs to be collected in a serum (plain) tube between 9-13 weeks of pregnancy and therefore sure dates and/or a dating scan is very important. Also of importance is ethnicity, current maternal weight, whether the patient smokes or not and whether this was an IVF pregnancy. All of the above factors play an important role in the biochemical composition of the pregnancy hormones.



Recent evidence from FMF indicates that it is better to do the biochemistry at 9-11 weeks, followed by NT at 12-13 weeks. Biochemical markers are more reliable earlier in pregnancy, whereas NT

and the rest of the fetal anatomy is better viewed and examined at 12-13 weeks of pregnancy.

At 47 Pembroke Street in Hamilton we have established a clinical laboratory which will provide biochemical testing only for free Beta HCG and PAPP-A. No other blood test will be performed. This clinical laboratory will be run by an accredited pathology scientist and technician. Accreditation through FMF is obtained and we will be participating in an external quality assurance programme with NEQAC-UK (Edinburgh, UK).

Also the other advantage for biochemistry markers for the future is prediction of pre-eclampsia by PAPP-A levels (watch this space!!!) and how PAPP-A levels at 10-14 weeks are a predictor for pre-eclampsia in the 3rd trimester.



 **Combined first trimester screening for chromosomal abnormalities**

DATING SCAN +/- SURE DATES (LMP WITH 28 DAY CYCLE) VERY IMPORTANT

Detailed counselling of patient regarding screening for chromosomal abnormalities by health professional

Patient to fill in & sign the **WR FORM** with all details and payment

Blood to be collected at Pathology lab in gold top (plain) test tube between 9-13 weeks; preferably between 9-11 weeks.

Blood will be sent, via courier, to **WAIKATO RADIOLOGY**, 47 Pembroke street, Hamilton soon after collection with appropriate payment

Report of free beta HCG & PAPP-a will be sent to you via healthlink, fax or e-mail within **48 HRS OF RECEIVING THE SAMPLE**

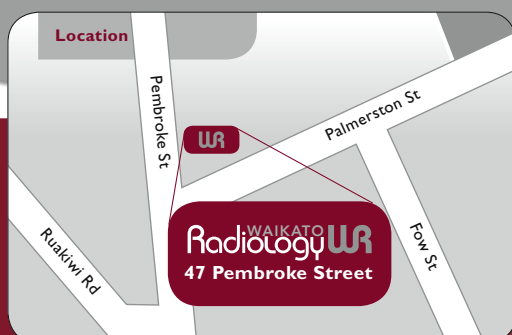
Results of free beta HCG & PAPP-a can be entered into the FMF programme for the patient

**PROCEED WITH NT SCAN (11-14 WEEKS)
AT YOUR LOCAL RADIOLOGY PRACTICE / HOSPITAL**

Combined risk assessment communicated to the patient soon after NT SCAN leading to combined first trimester screening

If high risk, offer pre-natal diagnosis via CVS.
First trimester diagnosis via fish in 48-72 hours

Diagnosis and management of fetal chromosomal abnormalities in first trimester of pregnancy



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