QueenslandXRay

REFERRER GUIDE

NUCHAL TRANSLUCENCY SCREENING TESTS

Referral options for the nuchal translucency scan

At Queensland X-Ray we offer four different service options at the time of the nuchal translucency (NT) scan. The patient receives a Medicare rebate for this ultrasound and will incur slightly different out of pocket costs for each service. All options include an early anatomical survey.

If the patient is having NIPT:

1. **Combined pre-eclampsia Screening**
   Please request serum PLGF to be performed **at or after 11 weeks' gestation** (the PLGF cannot be used in our calculation if taken before 11 weeks).
2. **Early anatomy ultrasound**
   12-13 week structural ultrasound.

If the patient is **not** having NIPT:

3. **Combined first trimester chromosomal and pre-eclampsia (PE) screening**
   Please request serum beta-hCG, PAPP-A and PLGF to be performed at or after 11 weeks' gestation, up until 13w6d. The PE screening calculation can be performed with PAPP-A rather than PLGF if preferred, for a slight reduction in sensitivity.
4. **Combined first trimester chromosomal screening**
   Please request serum beta-hCG and PAPP-A. This is best done three days before the NT scan, up to seven days is acceptable. Bloods taken after 13w6d cannot be used for the risk calculation.

How do we calculate the risk for pre-eclampsia?

The risk calculation method we use at Queensland X-Ray is that developed by the Fetal Medicine Foundation and combines maternal characteristics and medical history, uterine artery pulsatility index (PI), mean arterial pressure (MAP), and PLGF (or PAPP-A) to calculate a risk for preterm pre-eclampsia. This combination has been shown to detect about 75% of cases of preterm PE, with detection rates better for earlier onset disease (100% <32w, 90% <34w, 43% >37w with a 10% FPR)[1]. Similar detection rates have been shown in subsequent UK and Australian validation trials[2,3].

A high risk combined screening result

For chromosomal abnormalities, a high risk result is < 1:300. Each patient is provided a result for T21, T18 and T13. The detection rate is 80-89% for fetal aneuploidy.

For preeclampsia, a high risk result is < 1:100. If a high risk result is received, it is recommended that the patient be offered prophylactic low-dose aspirin, **150mg daily taken at night**, commenced before 16 weeks' gestation and continued until 36 weeks' gestation. This has been shown to reduce the risk of developing preterm pre-eclampsia by at least 60%[4].

The timing of the ultrasound scan

For the purposes of performing an early structural review, nuchal translucency measurement and open spina bifida screening, the preferred timing for the ultrasound is at 13 weeks' gestation. The ultrasound can be performed between 12 weeks and 13w6d. Scans performed prior to 12 weeks' gestation run the risk of encountering physiological gut herniation or requiring repeat studies for better visualisation of anatomical structures.

REFERENCES:

1. Rolnik, DL et al. ASPRE trial: performance of screening for preterm pre-eclampsia. UOG 2017; 50: 492-495
2. Guy, GP et al. Implementation of routine first trimester combined screening for pre-eclampsia: a clinical effectiveness study. BJOG 2021; 128:149-156
3. Park, FJ et al. Clinical evaluation of a first trimester algorithm predicting the risk of hypertensive disease of pregnancy 2013; 53: 532-539
4. Rolnik, DL et al. Aspirin vs Placebo in Pregnancies at High Risk of Preterm Preeclampsia. NEJM 2017; 377:613-22

To speak with a radiologist about the screening tests or about individual results, please call our Referrer Help Desk on 1800 779 977