

First Trimester Screening NT Provider Progress Report 12

23/01/2013

Dear Colleague,

Your NT Provider Code is 24

South Australian Maternal Serum Antenatal Screening (SAMSAS) Program
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You are receiving this progress report on behalf of your practice. Please review and discuss this report with your group. Results are confidential with each group having their own code. To maintain confidentiality, codes have been changed from previous reports. If you wish to nominate another individual from within your organisation or you have received this report in error please let us know. Code 30 represents the collective group for those NT providers with too few measurements to be displayed individually.

Nuchal Translucency Measurements

Enclosed are graphical representations of nuchal translucency (NT) measurements submitted to the SAMSAS program from South Australia, Tasmania and Northern Territory, for the first period between December 2011 to the end on December 2012. During this period 17,414 combined risk assessments were issued.

See **Appendix A** for information on gestation, box plots and multiples of the population median (MoM).

Figure 1 shows the NT MoM distributions for each NT provider. From this display one is able to compare measurements between groups. Ideally, for each group, the median measurement should be 1 MoM with 50% of measurements (represented by the box) falling within 0.8 and 1.2 MoM.

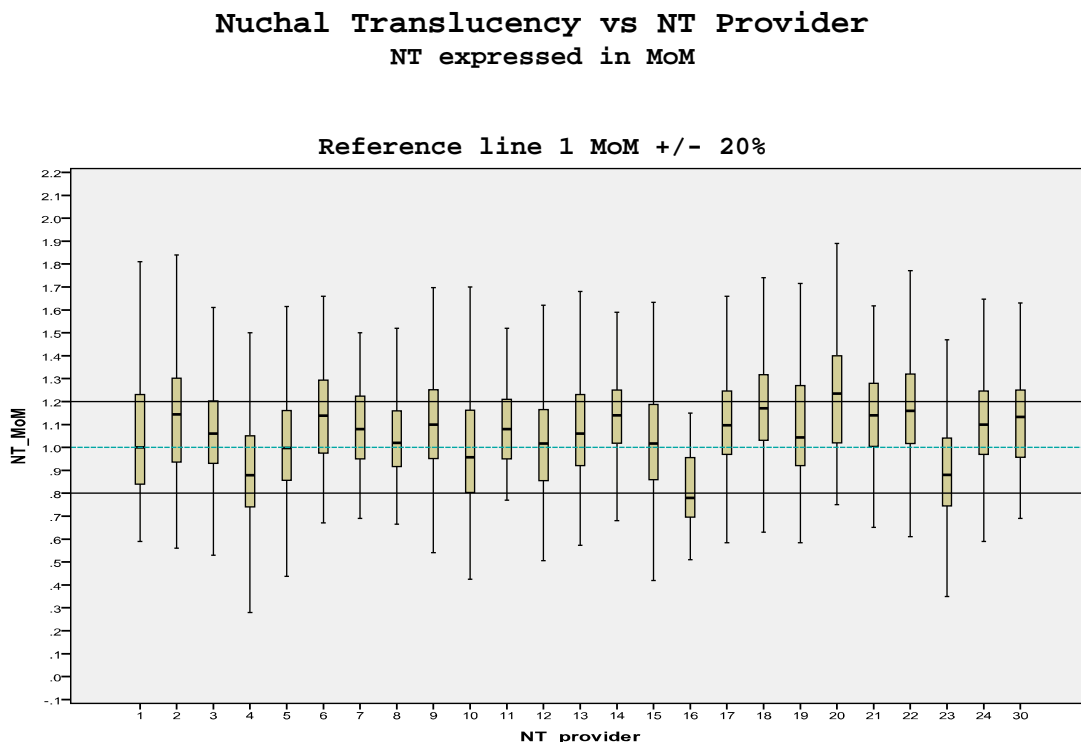


Figure 1

NT provider group 16 should review their measuring practices as the majority of their measurements are below 0.8 MoM (ie. 90% of their results are below the average). Lower than average measurements will result in an underestimate of risk.

NT provider group 20 should review their measuring practices as the majority of measurements are above 1.2 MoM. Higher than average measurements will result in the over estimation of risk.

Appropriate training, credentialing and strict adherence to the recommended method of measurement will minimise variability, lead to tighter population distributions and assist in maintaining program performance.

Table 1 shows the number of NT measurements performed by each group.

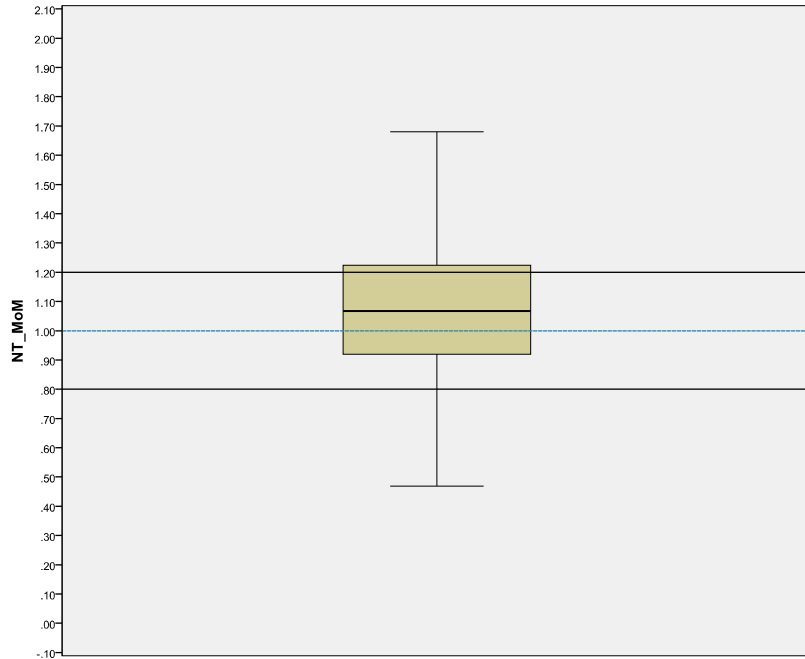
NT Provider	Number of Measurements	NT Provider	Number of Measurements
1	270	16	75
2	329	17	2919
3	4606	18	467
4	219	19	128
5	2221	20	144
6	253	21	109
7	89	22	406
8	242	23	567
9	763	24	968
10	713		
11	128	30	142
12	250		
13	117		
14	1217		
15	237	Total	17556

Figure 2 shows the NT MoM distribution for all NT providers combined. It represents the overall population distribution of NT measurements and is a graphical representation of data in Table 2. The data in the box should be between 1 MoM +/- 20%. This plot is showing some upward skewness. In view of the increase in median values being introduced by the RANZCOG/FMF program this is a desirable trend.

Nuchal Translucency Distribution all Providers

NT expressed in MoM

Reference line 1 MoM +/- 20%



NT_MoM (17556 nuchal translucency measurements)

Figure 2

Table 2 shows summary data for the last six NT progress reports. The stability displayed supports the continued use of nuchal translucency in the screening program. The data shows that more than 50% of all results lie between 1 MoM +/- 20%.

Table 2

	Report 7 Jan'08	Report 8 Jan'09	Report 9 Jan'10	Report 10 Nov'10	Report 11 Dec'11	Report 12 Dec'12
Number of NT Provider Groups	27	30	28	26	27	25
Number of NT measurements	14,281	15,560	15,652	9,639	19,721	17,556
Percentile	MoM	MoM	MoM	MoM	MoM	MoM
5 th	0.69	0.68	0.7	0.72	0.69	0.73
25 th	0.88	0.86	0.88	0.91	0.87	0.92
50th or Median	1.02	1.02	1.03	1.06	1.02	1.07
75 th	1.20	1.20	1.2	1.2	1.2	1.2
95 th	1.57	1.55	1.56	1.6	1.5	1.5
Interquartile Range (IQR)	0.32	0.34	0.32	0.29	0.31	0.28

For the screens performed in 2012 the median maternal age at delivery was 30.37 years, the median gestation for blood samples was 12wks 2 days and 12wks 5 days for the nuchal translucency scans. Blood samples and nuchal translucency scans can be done on different days (refer to point 2 of Appendix A).

First Trimester Combined Screening Strategy Performance

SA Births Defects Register Annual Report for 2007 is now available on line. The link is provided below. Table 16.5 of the report is a summary of performance for the years 2001 – 2007.

<http://www.wch.sa.gov.au/services/az/other/phru/birthdefect.html>

Nuchal Translucency Certification Program

As a specialist screening centre SAMSAS is bound by NATA accreditation standards and by the joint HGSA/RANZCOG college guidelines which clearly state the need for credentialing of sonographers providing nuchal measurements.

The credentialing process in Australia is that of the Fetal Medicine Foundation (FMF) run by RANZCOG. In August 2009 RANZCOG introduced the Nuchal Translucency on line Learning Program (NTOLP). For course details and enrolment for 2012 refer to website (www.nuchaltrans.edu.au)

Summary

- NT provider groups should review their measuring practices and FMF credentialing. This is even more important for groups whose 50% limits lie outside 0.8 and 1.2 MoM.
- In accordance with joint HGSA/RANZCOG guidelines NT providers should restrict nuchal translucency measurements to credentialed sonographers.
- From a population screening perspective, the spread of nuchal translucency measurements continues to be acceptable.
- Combined NT and biochemical measurements continues to be the strategy of choice when screening for Down syndrome. For risk calculation, SAMSAS requires nominated imaging practices to send the nuchal measurements. SAMSAS continues to send a notification fax to the nominated imaging practice asking for a nuchal report to be sent. This does not apply to OACIS users as SAMSAS has direct access or to FMF specialist groups providing their own risk assessment and counselling

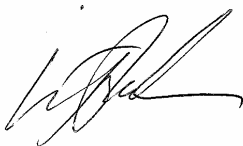
We are able to receive nuchal translucency ultrasound reports electronically so please contact Promedius on 03 9426 9988, E-clinic on 1300 669 961 or Health Link on 1800 125 036 for assistance.

The data presented in this report are those of the SAMSAS program and do not apply to other software or testing centres.

Progress reports are available on line, www.wch.sa.gov.au/samsas.html

I would like to thank all participants within the SAMSAS program network for their support throughout the year.

Yours sincerely,



Ian Toshach, BAppSc, Med Lab Sc, Head, Antenatal Screening (SAMSAS) Program

Appendix A

1. Crown rump length (CRL) at the time of the nuchal translucency (NT) scan is used to estimate gestation. FMF guidelines state the fetal CRL should be between **45 and 84mm**. A good **sagittal section** of the fetus must be obtained, with the fetus horizontal on the screen. The correct view is a clearly visualised fetal profile. The fetus should be in a **neutral position**, with the head in line with the spine, not hyper-extended or flexed.
2. 1st trimester blood samples are accepted from **9wks to 13wks 6 days**; they **DO NOT** have to be collected on the same day as the nuchal scan. Any gestational age variations for blood samples will be automatically corrected back to the collection date once the NT report is received. The optimal time for the blood sample is 10-12 wks.
3. Most data presented in this report are in the form of Box Plots. The Box includes the 25th to the 75th percentiles (or the Interquartile range, IQR), with the median (or 50th percentile) being the line in the box. 50% of cases fall within the Box. The tails or whiskers at either end of the box display the smallest and largest observed values that are not outliers. From the length of the box you can determine the spread or variability of your measurements. If the Median value is not in the centre of the box, then your measurements are skewed. The number of measurements performed by each group is shown in Table 1.
4. Representing the NT measurements in multiples of the population median (MoM), eliminates variability from differences in gestational age. For example, 1 MoM at 11 weeks is directly comparable to 1 MoM at 12 weeks etc, whereas the respective measurements in mm would be different.