

# First Trimester Screening NT Provider Progress Report 9

11/01/10

Dear Colleague,

Your NT Provider Code is

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 varied 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.**

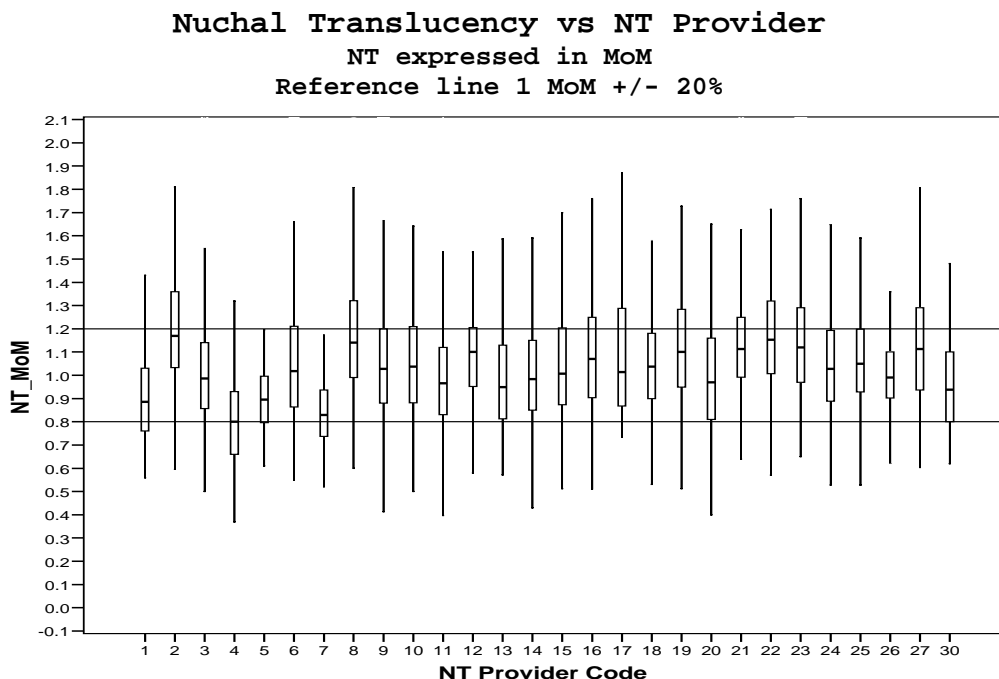
Code 30 is a collective group for those NT providers with too few measurements to be displayed individually.

## 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 2009 Calendar year during which 15,652 valid 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 groups 4 and 7 should review their measuring practices as their measurements are trending low. Lower than average measurements will result in an underestimate of risk.

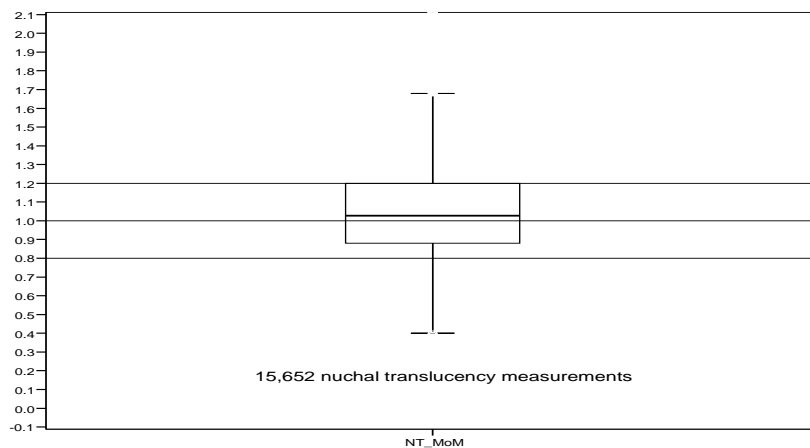
Appropriate training, credentialing and strict adherence to the recommended method of measurement will minimise variability, lead to tighter population distributions and assist in maintaining program performance.

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

NT Provider	Number of Measurements	NT Provider	Number of Measurements
1	122	16	235
2	249	17	34
3	3986	18	454
4	165	19	239
5	57	20	699
6	131	21	314
7	48	22	119
8	402	23	1866
9	2010	24	171
10	176	25	301
11	1384	26	187
12	63	27	803
13	198	30	82
14	614		
15	543	Total	15652

**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. We aim to keep the box 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%



**Figure 2**

**Table 2** shows summary data for nine 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 1 Dec'01	Report 2 May'03	Report 3 April'04	Report 4 April'05	Report 5 Jan'06	Report 6 Feb'07	Report 7 Jan'08	Report 8 Jan'09	Report 9 Jan'10
Number of NT Provider Groups	8	12	17	17	19	23	27	30	28
Number of NT measurements	1,845	2,465	8,198	8,727	10,832	12,516	14,281	15,560	15,652
<b>Percentile</b>	<b>MoM</b>	<b>MoM</b>	<b>MoM</b>	<b>MoM</b>	<b>MoM</b>	<b>MoM</b>	<b>MoM</b>	<b>MoM</b>	<b>MoM</b>
5 <sup>th</sup>	0.6	0.59	0.61	0.62	0.64	0.66	0.69	0.68	0.7
25 <sup>th</sup>	0.82	0.82	0.83	0.83	0.85	0.86	0.88	0.86	0.88
<b>50<sup>th</sup> or Median</b>	<b>0.99</b>	<b>1.0</b>	<b>1.01</b>	<b>1.00</b>	<b>1.03</b>	<b>1.0</b>	<b>1.02</b>	<b>1.02</b>	<b>1.03</b>
75 <sup>th</sup>	1.19	1.22	1.21	1.20	1.23	1.17	1.20	1.20	1.2
95 <sup>th</sup>	1.62	1.63	1.63	1.60	1.62	1.55	1.57	1.55	1.56
<b>Interquartile Range (IQR)</b>	<b>0.37</b>	<b>0.4</b>	<b>0.38</b>	<b>0.37</b>	<b>0.38</b>	<b>0.31</b>	<b>0.32</b>	<b>0.34</b>	<b>0.32</b>

For the screens performed in 2009 the median maternal age at delivery was 30.98 years, the median gestation for blood samples was 12wks 2 days and 12wks 4 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 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 – 2006.

<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 2010 refer to website ([www.nuchaltrans.edu.au](http://www.nuchaltrans.edu.au)). At this stage January 11, March 8 and May 3, 2010 are confirmed dates for this course. Ann Robertson from RANZCOG can be contacted on 03 8415 0827.

## 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 have nuchal translucency measured by 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 Promedicus 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](http://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,



Robert Cocciolone, 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. 1<sup>st</sup> 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 25<sup>th</sup> to the 75<sup>th</sup> percentiles (or the Interquartile range, IQR), with the median (or 50<sup>th</sup> 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.