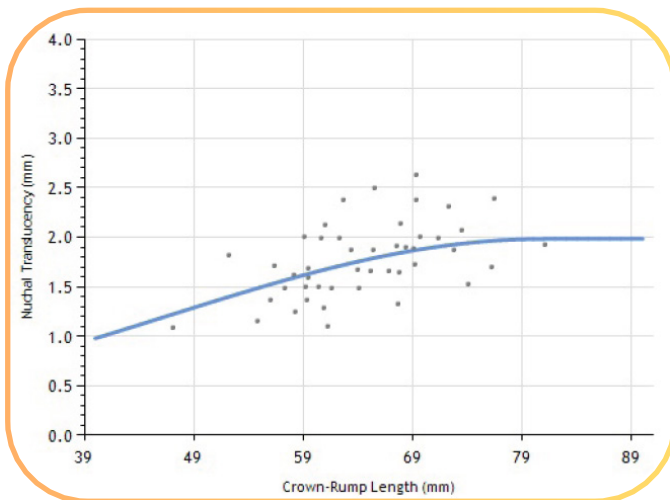


Positive Bias

Median bias refers to the position of the NT/CRL data points relative to the Fetal Medicine Foundation (FMF-UK) reference curve. A **negative bias** means that the majority of your data points fall below the FMF curve.

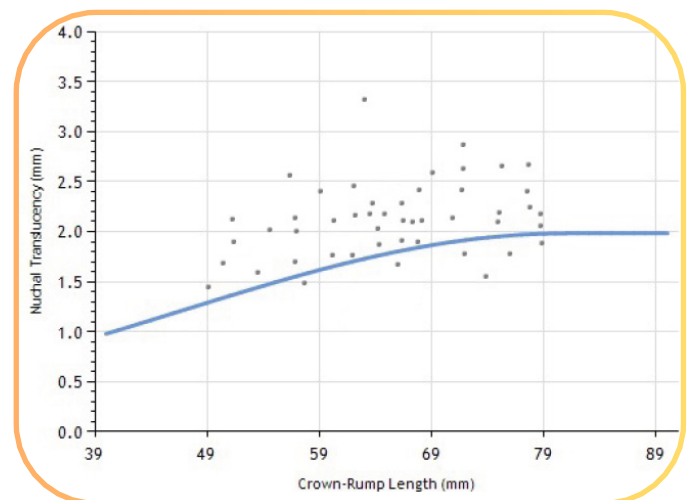
A positive bias means that the majority of your data points fall above the FMF curve.

Acceptable median bias



Approximately 50 percent of the data points are positioned above the curve, and 50 percent of the points are below the curve.

Positive bias



The majority of the data points are positioned above the FMF reference curve.

⇒ Why does it matter?

A Positive Bias can lead to over-estimating the risk for aneuploidies, or even false positive prenatal screening results.

⇒ What to do about it?

The next step is to evaluate your scanning practice to determine WHY you may be over-measuring.

Positive Bias

Common reasons for a positive bias

- **Hyperextension of the fetal neck when measuring the NT**
When the fetal neck is hyperextended, the NT may be increased by up to 0.6mm¹
- **Including the amnion in the NT measurement**
Mistaking the amnion for the nuchal border can lead to over-measurement of the NT.
- **Incorrect caliper placement**
Placing the calipers beyond the echogenic borders of the NT can lead to over-measurement.
- **Hyperflexion of the fetal neck when measuring the CRL**
If the fetus is flexed when you are measuring the CRL, it can lead to an under-estimate of the gestational age, and make your NT data appear positively biased, even if you are measuring the NT appropriately.

¹ Nicolaides, K. H. (2004). The 11–13+6 weeks scan. London: Fetal Medicine Foundation. Retrieved from <https://fetalmedicine.org/education/the-11-13-weeks-scan>



Correct

Incorrect

Inaccurate caliper placement can lead to a positive bias.

→ Resources & recommendations

- Review the FMF Imaging Protocol and re-watch the NT Measurement sections of the [FMF 11-13 weeks scan course](#).
- This video by the [New Zealand Ministry of Health](#) provides excellent tips for measuring the NT and CRL accurately.
- Be sure to visualize the amnion separate from the NT, and capture this in your NT image, if possible. Wait for the fetus to move away from the amnion before measuring the NT.

→ Summary and next steps

Step 1: Assess



Critically analyze your own NT and CRL images, to find reasons for your Positive bias. Seeking feedback from colleagues may also be helpful.

Step 2: Review & implement



Review the Resources and Recommendations above, and implement changes to your NT and CRL scanning to correct errors contributing to a positive bias.

Step 3: Monitor



In six months, log in to your BORN account to view your NT performance curve, and monitor improvement in your bias.

MIDLINE SAGITTAL PLANE REQUIREMENTS

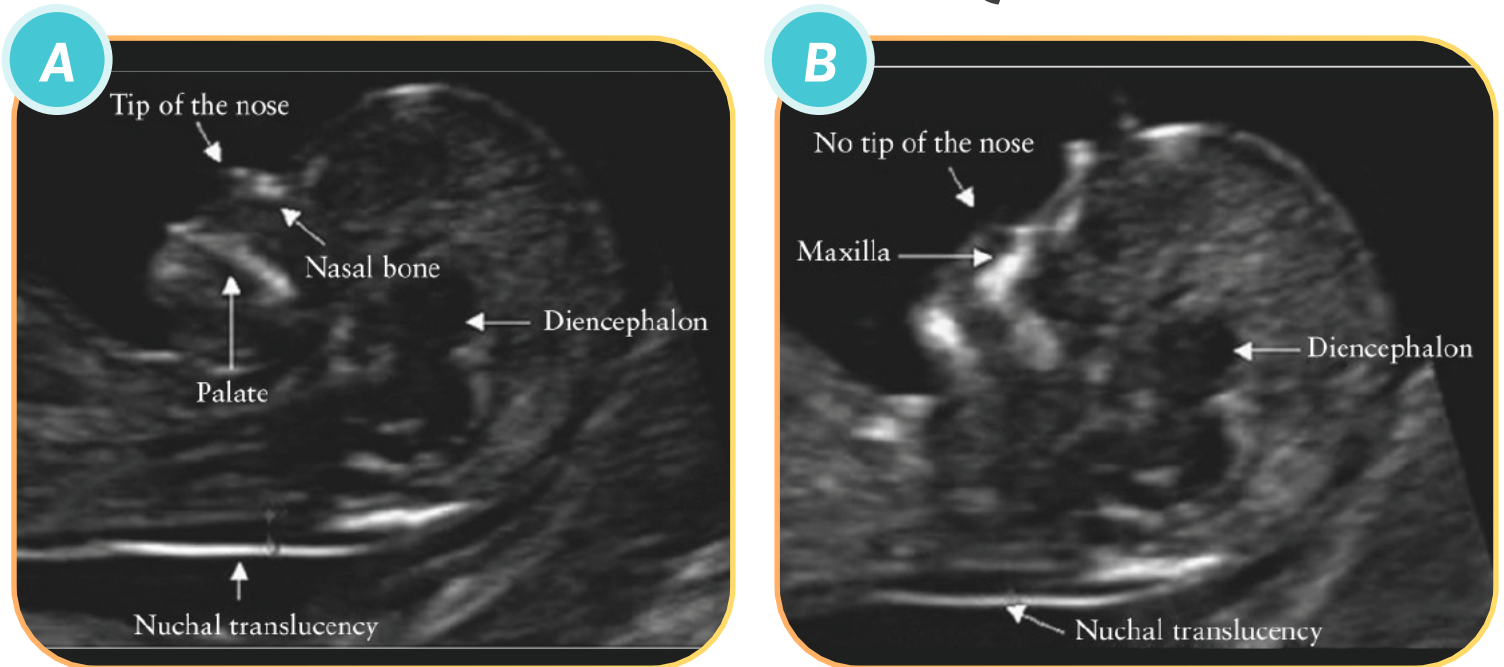


Figure 11: Left: Fetus in a true midsagittal plane. Right: Fetus in a slightly oblique plane. Note the presence of the maxilla bone and the foreshortening of the NT.

1. Luchi, C., Persico, N., Rembouskos, G., & Nicolaides, K. H. (2014, November). Practical approach to obtain the mid-sagittal plane of the fetal face at 11–13 weeks' gestation by two-dimensional ultrasound. *Ultrasound in Obstetrics and Gynecology*, 44(5), 617-618. doi:doi: 10.1002/uog.14660MIDLINE

- ☐ Absence of maxilla bone. We should see a hypoechoic space between the nasal bone and the palate.
- ☐ Nasal bone, skin over nasal bone, and tip of nose visible.
- ☐ Palate and mandible visible.
- ☐ Anechoic diencephalon visible in brain.
- ☐ Long portion of NT visible (from thorax to tapering at occiput).

Looking for more information?

Visit Prenatal Screening Ontario's [website for Sonographers](#) or contact us to speak with a clinical content specialist



Find out more on our
website for Sonographers

