

Technically Difficult NT Scans

Causes of technically difficult NT scans:

- Fetal Position
- Maternal Body Habitus/TDS



Difficult Fetal Position

- Roll the patient into new position
- Tip the patient into Trendelenburg
- Send the patient to empty bladder
- Send the patient for a walk
- Rebook the patient
- Attempt transvaginal ultrasound

If all of these techniques are used, and the patient is at the end of the NT time frame (CRL > 84mm), then the NT cannot be obtained on this patient.

Factors we can control Regardless of body habitus:

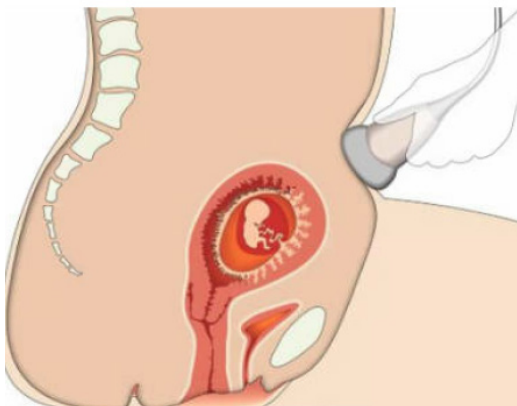
- Midline Sagittal Plane
- Caliper placement
- Machine Optimization (e.g., correct gain, zoom, etc.)
- Fetus is in a neutral position

Difficult Body Habitus

If **all** of these factors are optimized, and the image is diagnostic, then the NT can be included.

If **all** of these factors are optimized, but the image is not diagnostic due to visibility, then an NT cannot be accurately obtained.

Try scanning with the patient sitting upright (75 to 90 degree) (Upright technique, 1)



Upright technique, 1

- Transducer is placed just under the umbilicus and angled caudad to the image of the fetus at 90 degrees from the original position when the patient was supine.
- Sitting the patient upright results in a change in orientation of the uterus allowing the beam to enter the uterus from the fundus.
- This change is often enough to obtain an adequate NT.
- Particularly helpful when scanning a patient with a difficult body habitus because it allows the scanning window to be above the panniculus.

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Figure 1

Diagram of a patient in the Sims position with the patient's abdomen lying on the exam table. The transducer is moved along the patient's flank.

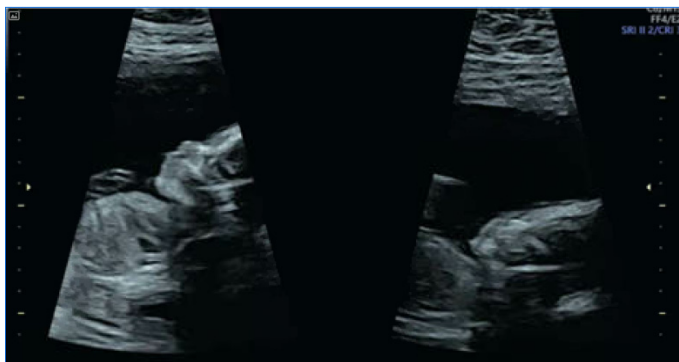


Figure 3

The ultrasound image lab was taken with the patient in the lateral decubitus position. The ultrasound probe was held in the window lateral to the panniculus, which had been shifted by gravity, allowing for scanning through the transverse abdominis muscles. The ultrasound image on the right was taken in the supine position, with visible degradation of the image due to the depth of insonation.

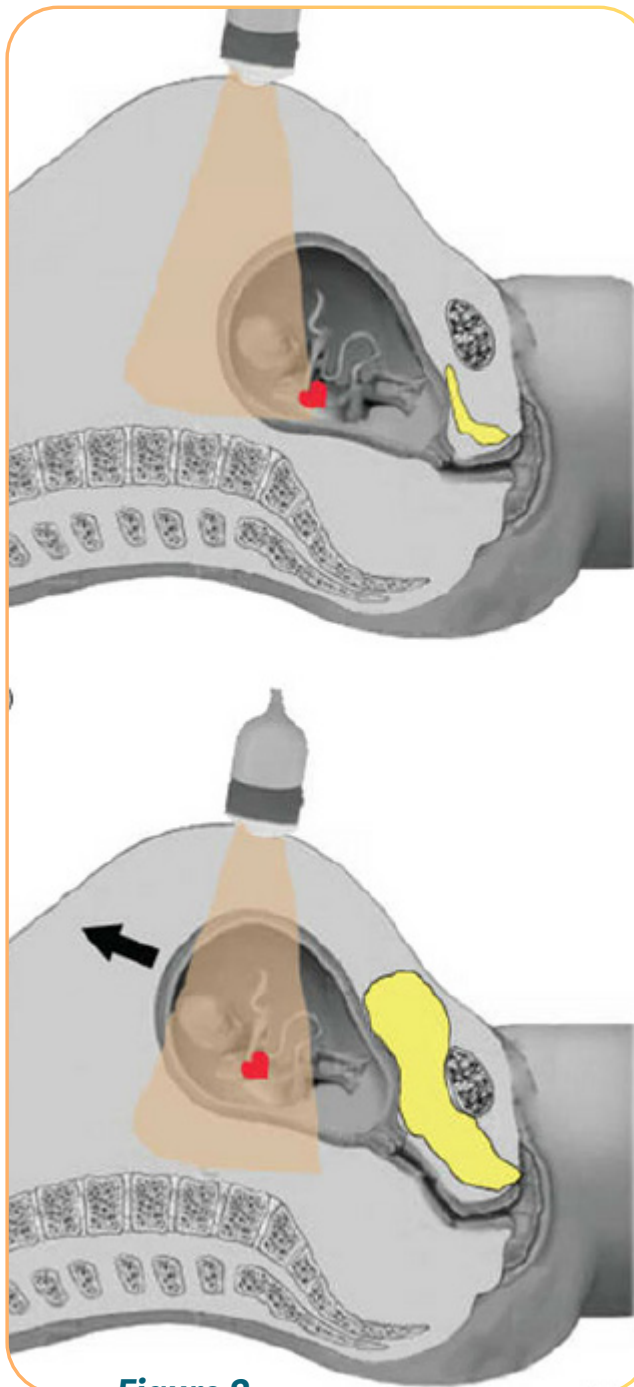


Figure 2

Fullbladder , paraumbilical view

References available on request

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Is it best NOT to include the NT measurement if you cannot obtain a diagnostic measurement



→ What to do if an NT cannot be obtained?

The patient should be referred to their primary care physician to be counselled on other prenatal screening options (e.g., MSS, NIPT, etc.).

Summary of Tips:

- adjust patient position - lateraldecubitus, oblique, semirecumbent, upright
- probe selection - lowerfrequency transabdominal, transvaginal
- machine optimization-compound imaging, speckle reduction, tissue harmonics,pre/post processing

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