



NT MEASUREMENT CRITERIA

1. Fetus occupies majority of image:

The fetal head, neck, and upper thorax should fill the majority of the image. The fetus should occupy greater than 50% of the image space. The image should NOT show the entire fetus or crown-rump length. A second fetus of the same magnitude should not fit in the surrounding space.

2. Margins of NT edges clear:

The ultrasound image should be clear with **thin** NT membranes (lines). The angle of insonation should be perpendicular to the NT line. The following techniques will help achieve this:

Decrease depth

Narrow sector width

Use fetal echo settings if needed

Use magnification box

Magnify then freeze

Decrease gain at the level of the NT

Avoid membrane shadows (try turning harmonics off if shadows persist)

3. Fetus in midsagittal plane:

Midsagittal view of fetal spine seen in cervical and thoracic region

Tip of nose and rectangular shaped palate seen

Third and fourth ventricle seen in fetal CNS

Should NOT see zygoma, ribs, stomach, or heart

4. Fetal head in neutral position:

The fetal head must be neutral without hyperflexion or hyperextension

Hyperflexion:

Fetal head is flexed with no free space (amniotic fluid) seen between lower chin and anterior neck

Hyperextension:

Fetal is extended with an angle between lower chin and anterior neck of greater than 90 degrees

5. Fetus observed away from the amnion:

This is a frequent source of error and if not properly measured, may overestimate the NT. Patience should be used to allow for spontaneous fetal movement away from the amnion. The amnion should be seen as a separate line from the nuchal membrane.

6 – 9. Correct caliper placement: The following guidelines should be followed:

Use the “+” calipers.

Measure the NT at the **widest translucent space**.

The horizontal crossbars of the calipers must be placed **on the echogenic inner borders of the nuchal membranes** with none of the horizontal crossbars protruding into the NT space.

A vertical line connecting the two calipers should be perpendicular to the long axis of the fetus.

NOTE: Measure the NT three times and report the **largest** of three acceptable measurements