



PRENATAL SCREENING
DÉPISTAGE PRÉNATAL
ONTARIO

Nuchal Translucency Quality Assurance (NTQA) Program: Guide to Crown-rump Length (CRL)

***The best possible beginnings
for lifelong health.***

Questions?

Contact Us:



www.PrenatalScreeningOntario.ca/for-sonographers/



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NTQA Program: Guide to CRL



Crown-rump length (CRL) is an extremely important biometric measurement. Accuracy in measurement is critical for pregnancy dating, aneuploidy risk assessment, and for ongoing management of pregnancy.

It is important to date the pregnancy using the CRL measurement.



- The risk result provided relies on an accurate CRL measurement.
- The CRL is used to standardize both biochemistry and nuchal translucency measurements.
- Under or over measurement of the CRL will impact the accuracy of screening tests.

**CRL: 45mm
(11+2wk)**



**CRL: 84mm
(13+3wk)**

Image Parameters

1. Midline Sagittal view
2. Horizontal Position
3. Neutral Position
4. Crown and Rump Clearly Defined
5. Caliper Placement
6. Magnification



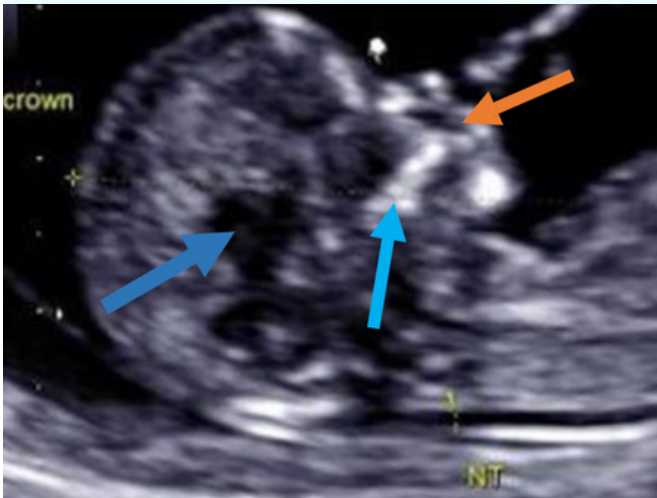
Repeat the measurement

Take the measurement 3 times and record the image meeting all the criteria.



Midline Sagittal View

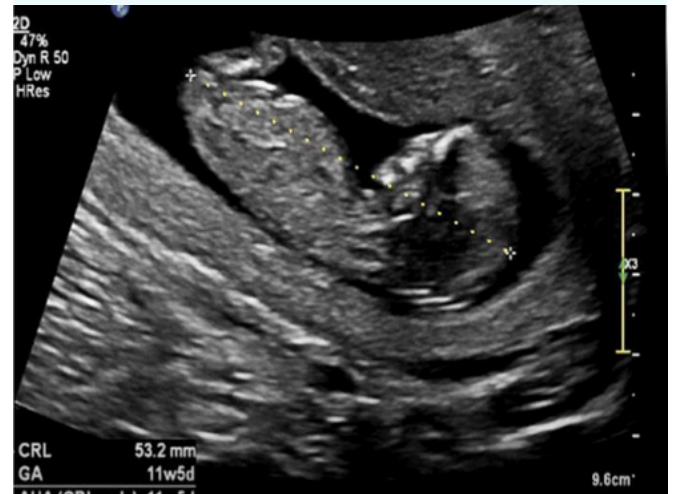
- Head should be in line with the full length of the body, which is displayed along with the full length of the spine
- Ribs, stomach and heart not seen
- Profile seen:
 - Absence of maxilla bone
 - Palate and mandible present
 - Nasal bone present
 - Diencephalon present



Horizontal Position

- Fetus should be horizontal in the image
- Ultrasound beam should be as perpendicular to the fetus as possible for image optimization

! *Measuring of angles greater than 30 degrees will likely lead to measurement error*

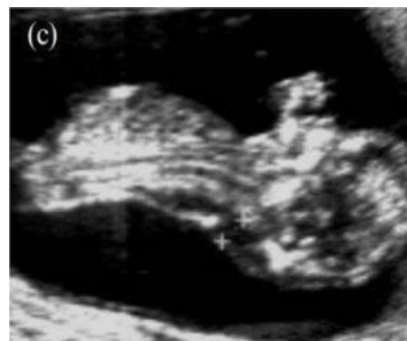


Watch: Measuring Nuchal Translucency and Crown Rump Length: 12-13 Weeks Scan

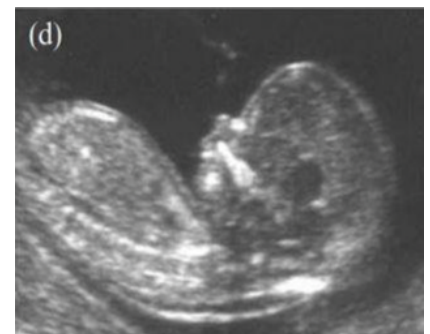
<https://www.youtube.com/watch?v=pCHFv1PAtnQ>

Neutral Position

- Fetus should be neither hyperextended nor flexed
- Cervical spine is not extended
- Hyperextension:
 - Fetal head is extended with an angle between chin and neck > 90 degrees
- Hyperflexion:
 - Fetal head is flexed with no free space (fluid) seen between chin and neck



Hyperextension



Hyperflexion

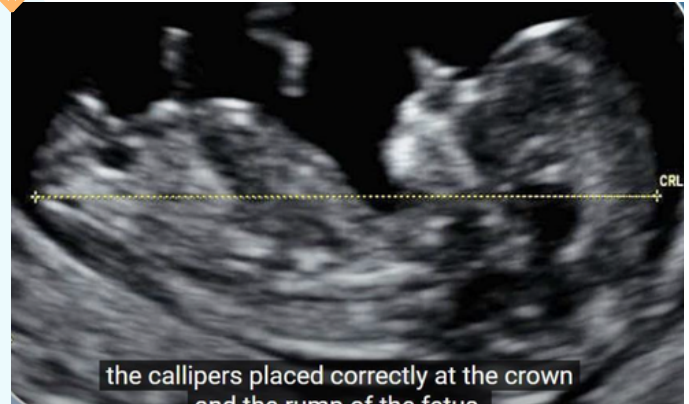
Crown and Rump Clearly Defined



- The crown is the skin above the parietal bone
- The rump is the skin inferior to the tip of the sacrum
- There should be a pocket of fluid between the ends of the fetus and the uterine wall

Caliper Placement

- Calipers placed on border of skin covering skull and border of skin covering sacrum
- Caudal caliper should not be on the distal spine, posterior thigh, or include limbs
- Maximum length of the fetus should be measured in a straight line parallel to the long axis of the fetus



Magnification

- Fetus should occupy more than 2/3 of the image width
- Entire crown-rump is visible
- Adjust field depth to display relevant structures
- Make the fetus as large as possible before freezing the image, use write zoom (live scanning allows maximum detail for the area and improves image quality)

