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Determination of Gestational Age by Ultrasound. *J Obstet Gynaecol Can* 2014;36(2):171-81.
This summary may not be republished.

RECOMMENDATIONS

- ✓ Offer every pregnant woman a first trimester dating ultrasound
- ✓ Use a second trimester ultrasound to assess gestational age if the availability of obstetrical ultrasound is limited

PRACTICE POINT

Use of precise, high quality ultrasound to determine gestational age in the first and second trimesters (≤ 23 weeks) of spontaneous conceptions is the best method for estimating the delivery date. See [Appendix A](#).

OTHER CONSIDERATIONS BASED ON SPECIALIST EXPERIENCE AND EXPERTISE

- If first trimester genetic screening is NOT a consideration, a first trimester dating ultrasound anytime between seven and 14 weeks is acceptable
- If first trimester genetic screening is intended, and the clinician is confident in the gestational age (GA) by last menstrual period (LMP) or otherwise, it would be reasonable to defer dating to the time of the nuchal translucency (NT) ultrasound (11 weeks, 0 days to 13 weeks, six days but preferably around 12 weeks)

DETERMINING GESTATIONAL AGE

FIRST TRIMESTER

- ✓ Use crown-rump length measurement from either transabdominal or transvaginal ultrasound to determine gestational age
 - Although transvaginal ultrasound may better visualize early embryonic structures than a transabdominal approach, it is not more accurate to determine gestational age
- ✓ Use the earliest ultrasound with a crown-rump length equivalent to at least seven weeks (or 10 mm) to determine the gestational age where there is more than one first trimester ultrasound with a mean sac diameter or crown-rump length measurement
- ✓ Use crown-rump length up to 84 mm, and the biparietal diameter for measurements > 84 mm
 - Between the 12th and 14th weeks, crown-rump length and biparietal diameter are similar in accuracy

SECOND AND THIRD TRIMESTER DETERMINATION

- ✓ Use a combination of multiple biometric parameters (biparietal diameter, head circumference, abdominal circumference and femur length) to determine gestational age, rather than a single parameter
- ✓ Follow-up for interval growth two to three weeks after a third trimester ultrasound used to base gestational age

PRACTICE POINT

Once gestational age is determined by an ultrasound performed at seven weeks or beyond, the estimated delivery date should NOT be adjusted by measurements on any subsequent ultrasound

APPENDIX A

Common Definitions of Ultrasound Biometry Parameters and Estimates of Accuracy for Predicting Gestational Age

Parameter	Description	Notes	Approximate Accuracy of Dates
Mean sac diameter	The mean of 3 orthogonal sac “inner to inner” diameter measurements (mm). Cursors should be placed on the gestational sac and not the surrounding echogenic region.	Should not be averaged with the CRL. Should not be used once CRL can be measured. GA = 30 days plus MSD measured in mm.	4 to 11 days
Crown-rump length	The crown-rump length is the longest straight line length of the embryo from the outer margin of the cephalic end to the rump. The neck position should be neutral.	The best CRL or the average of several satisfactory measurements should be used.	3 to 8 days
Biparietal diameter	Axial plane through a symmetrical calvarium that includes the third ventricle, thalami, falx cerebri, and cavum septi pellucidum anteriorly and the tentorial hiatus posteriorly. The calipers should be placed at the maximal diameter from the outer edge of the proximal skull wall to the inner edge of the distal skull.		1 st T: 3 to 8 days 2 nd T: 7 to 12 days
Head circumference	The head circumference is obtained in the identical plane to the BPD. The trace/ellipse should follow the outer perimeter of the bony skull, not the overlying skin, as that will falsely increase the head circumference.	The cerebellum is not included in this image.	2 nd T: 7 to 12 days
Abdominal circumference	True axial plane at the level of the bifurcation of the portal vein (into right and left branches) and the stomach. The measurement should be as tight to skin as possible.		2 nd T: 7 to 15 days 3 rd T: 18 to 35 days
Femur length	Both the femoral head or greater trochanter and the femoral condyle are simultaneously visualized. The cursor should be placed at the junction of bone and cartilage and only the bone measured.	Ideally, the ultrasound transducer should be aligned perpendicular to the long axis of the femur. Varies with ethnicity	2 nd T: 7 to 17 days 3 rd T: 21 days

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