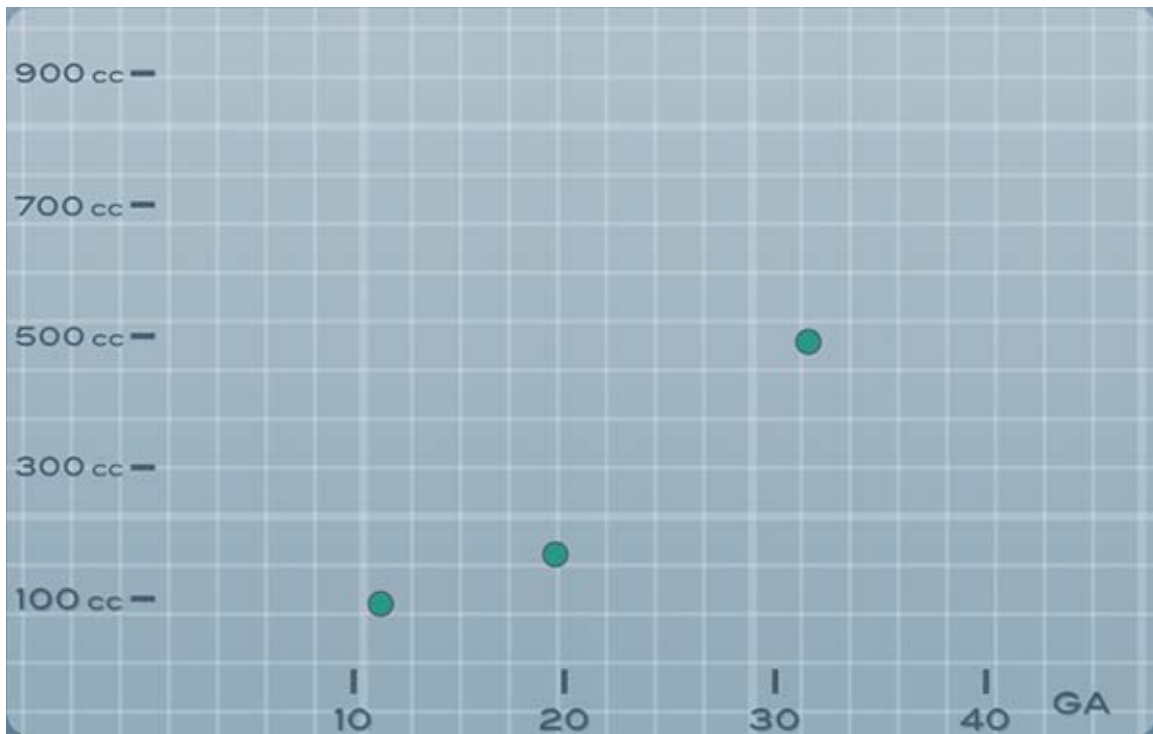


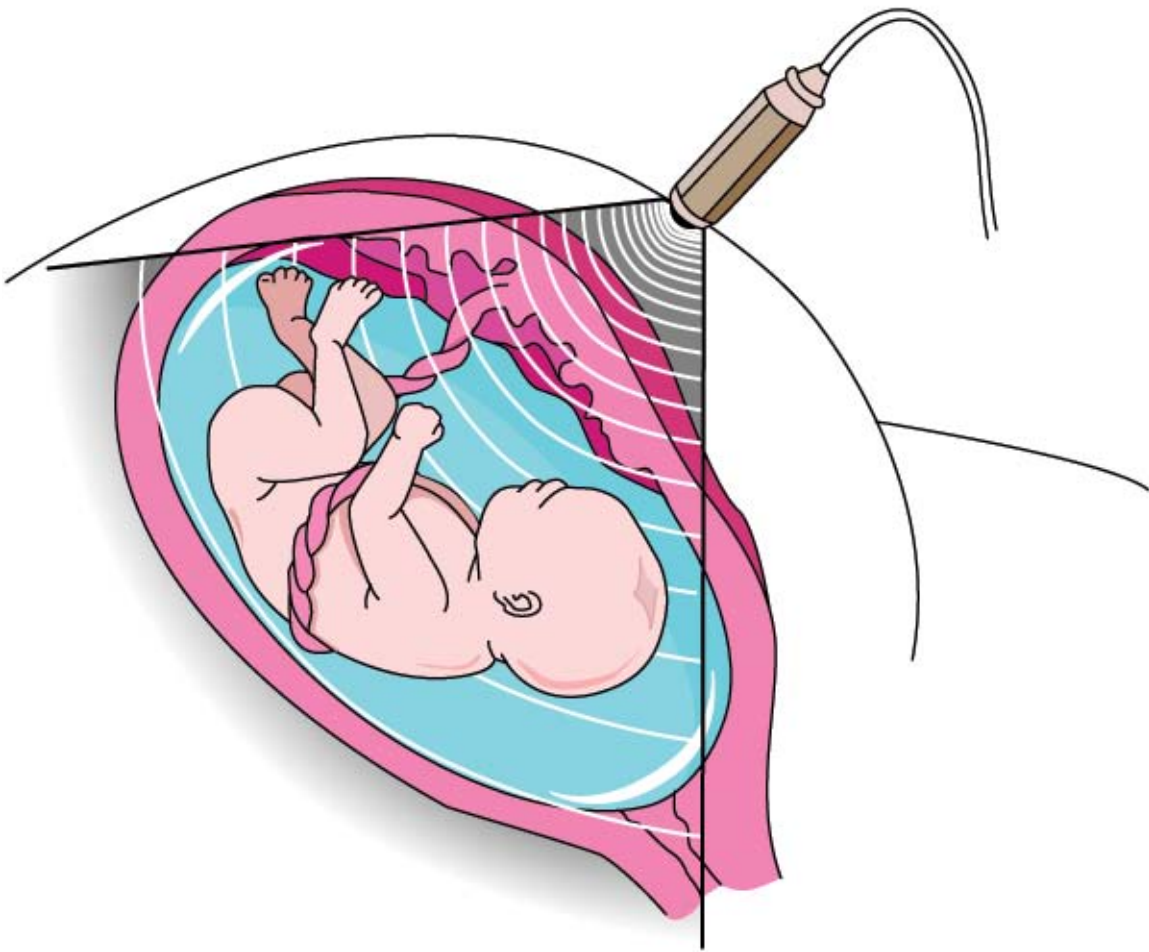
EPV data points

Estimated Placental Volume (EPV) can be measured from 7 to 40+ weeks. Use widest angle probe for large placentas. Beyond 36 weeks the placenta may be too large to visualize in one field.



Locate the placenta

Scan through placenta from edge to edge. Rotate probe 90°, rescan. Determine where maximal cross section is. Keep probe perpendicular to base of placenta.



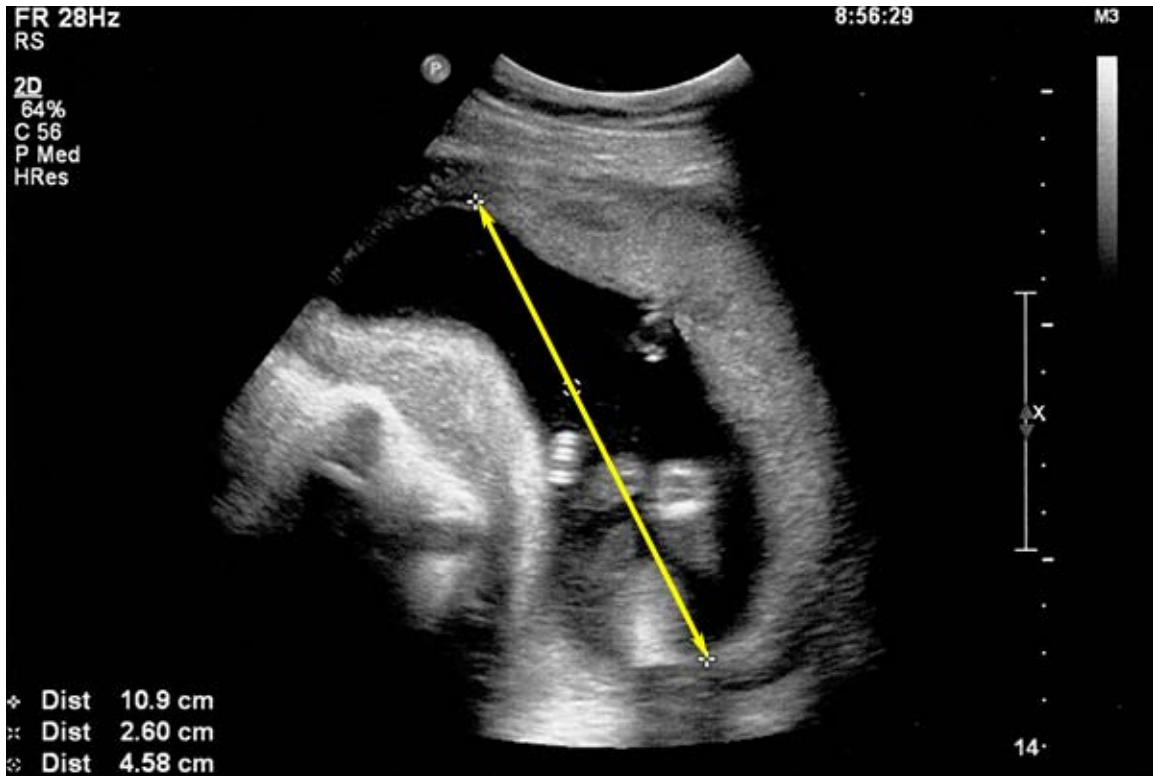
Freeze image

For the ideal image, freeze a perpendicular cross section at the maximal width of placenta.



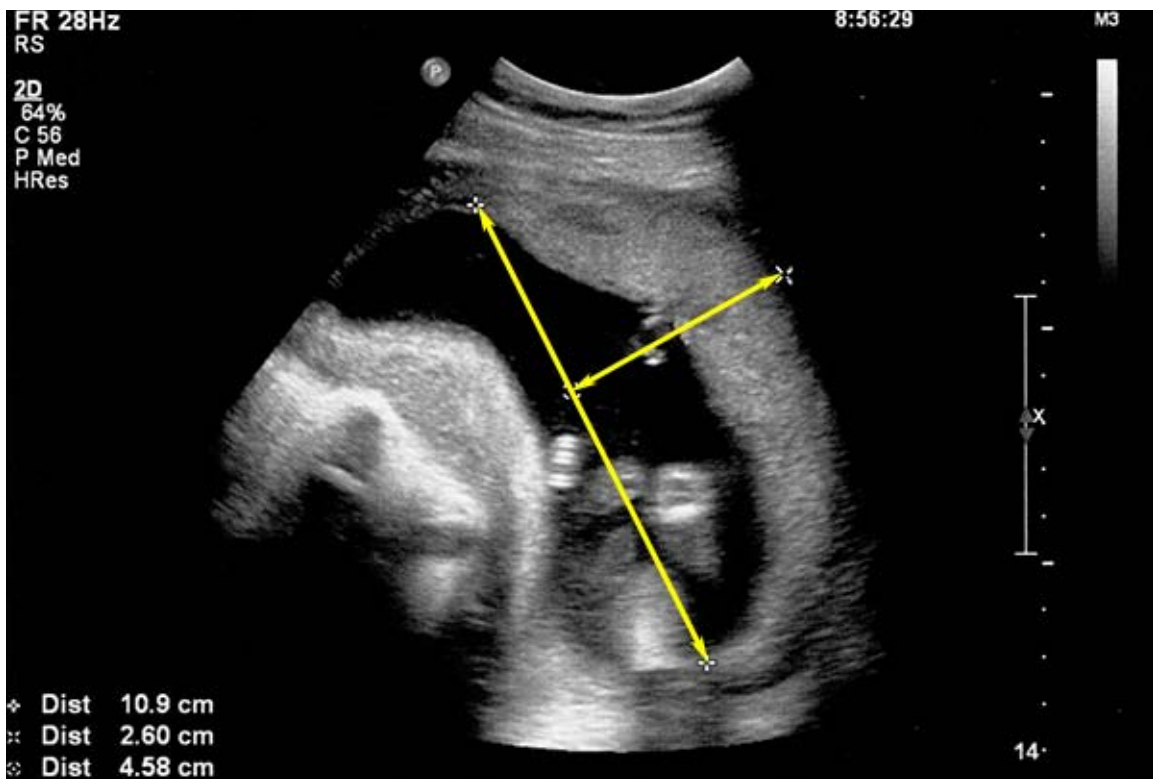
Measure Width

Take Width measurements from the tip edge to the opposite tip edge. Leave width line in place.



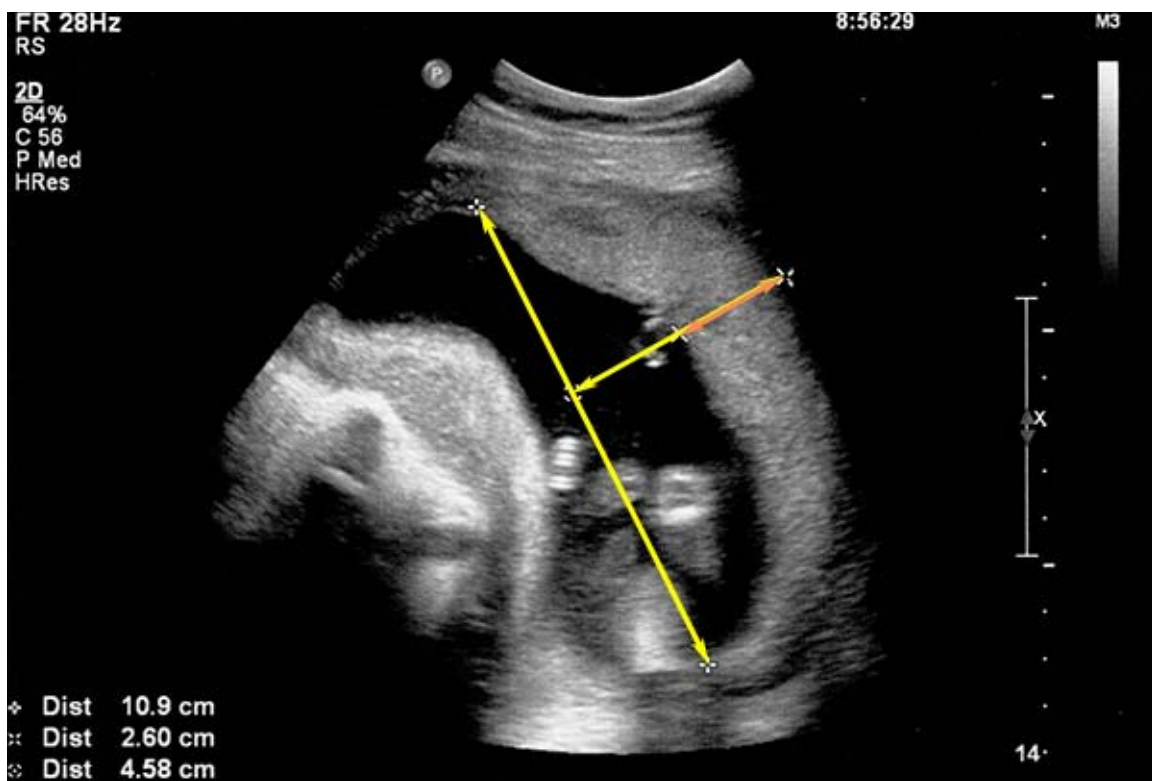
Measure Height

Locate top apex point of maternal surface of placenta. Fix a point. Create a line going towards width line. Move Height line along Width line until Height line is perpendicular to Width line. Fix second point of Height line.



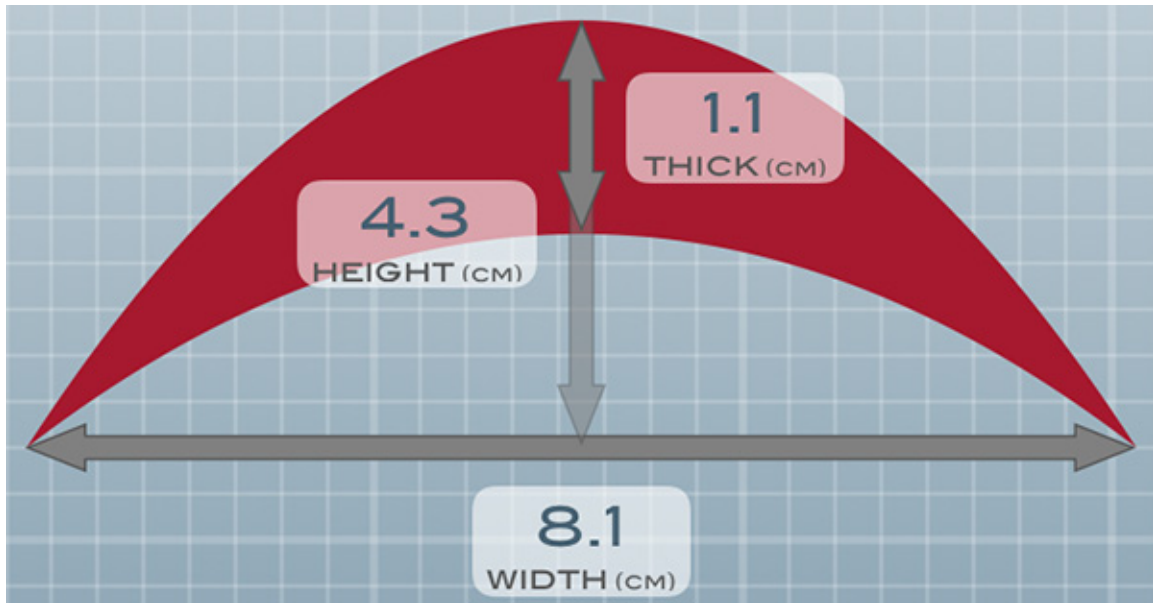
Measure Thickness

Fix a new point on top of apex point created for Height line.
Move along Height line until fetal surface of placenta is reached.
Fix second point of Thickness. Thickness is always equal to or less than Height.



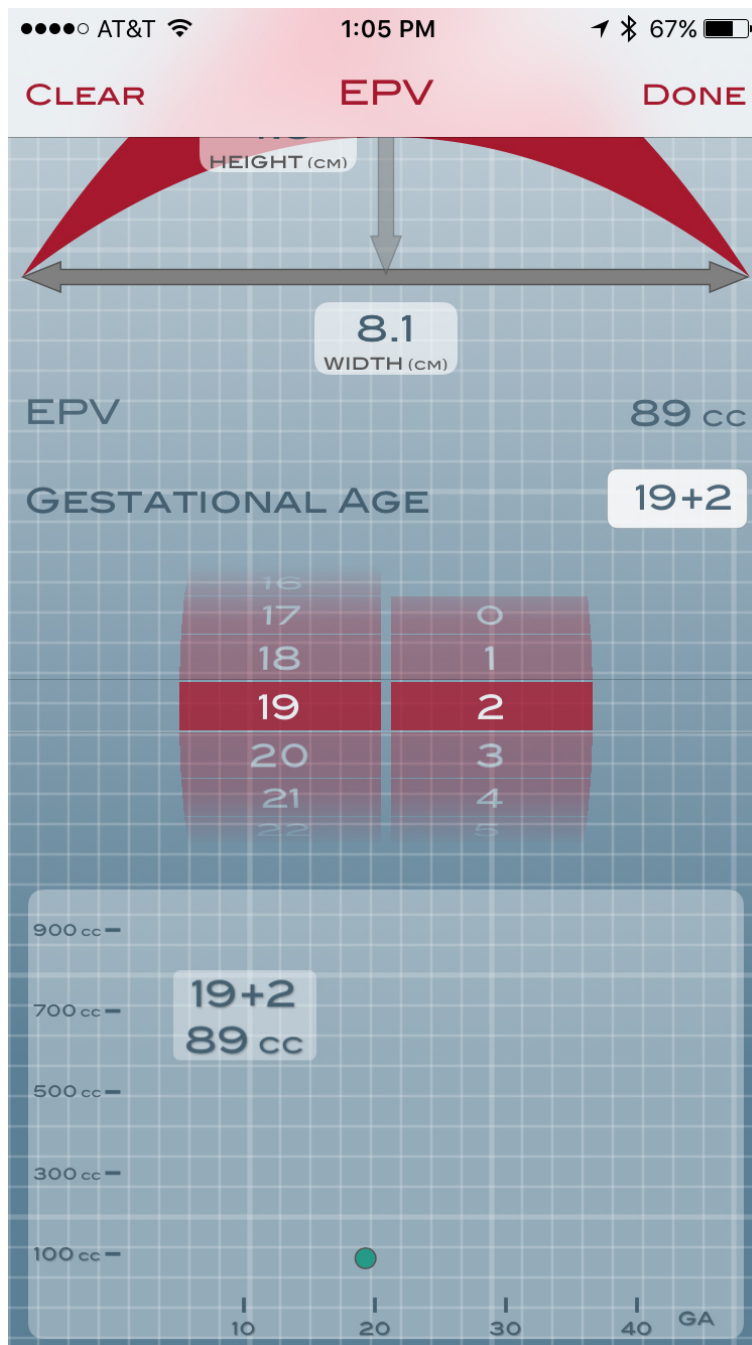
Enter data

Enter Width, Height and Thickness data into EPV calculator.



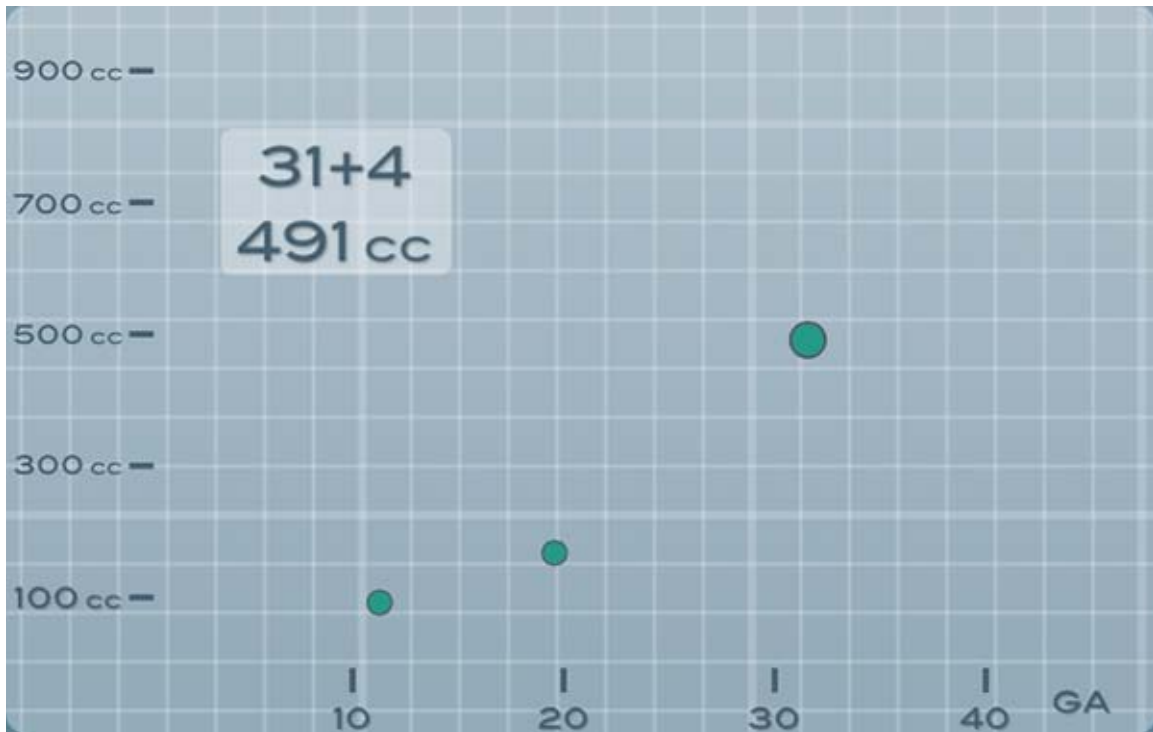
Enter GA

Use week and day wheels to enter correct gestational age. Click Done in upper right corner to enter data point.



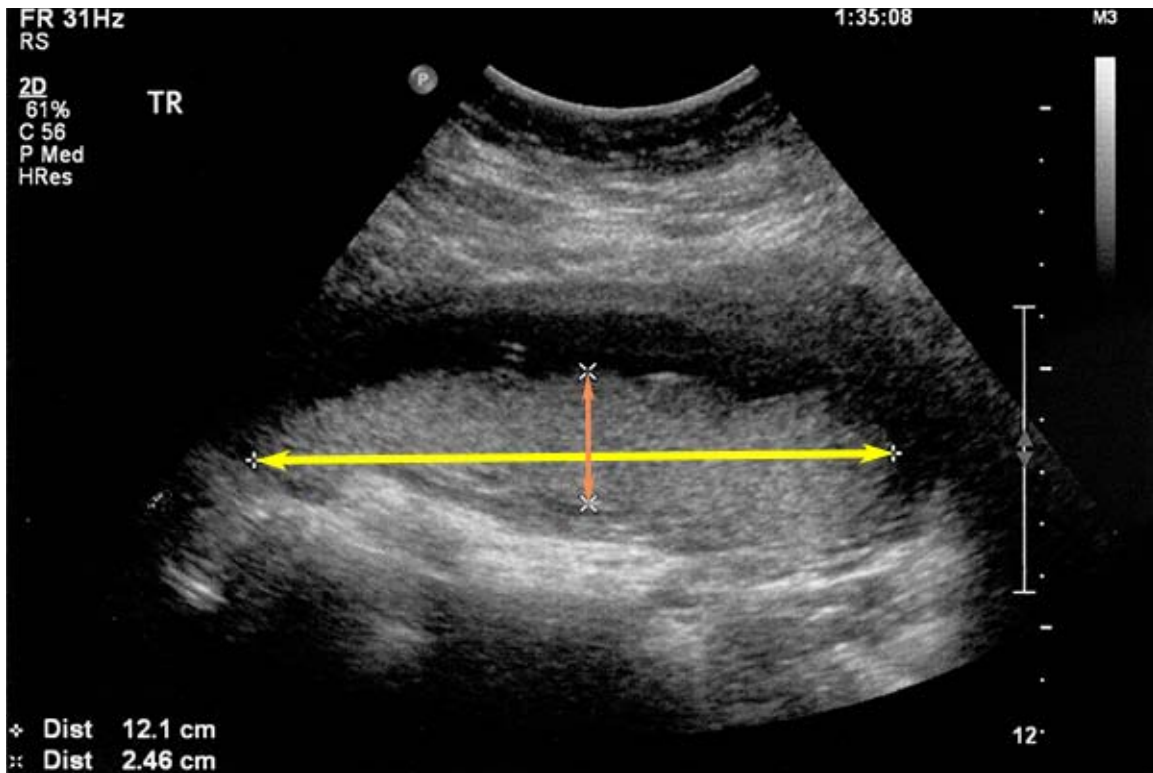
EPV Graph

EPV is plotted against GA. As the pregnancy progresses, each additional EPV data point is added to this graph.



Flat placentas

Simply measure the Width from one edge of the placenta to the other (yellow line). Measure Thickness by making a perpendicular line to the Width from one surface of the placenta to the other (orange line). Use Thickness value for both the Height and the Thickness data when entering into EPV calculator.



Web resources

For additional information see Azpurua et al. (2010) Determination of placental weight using two-dimensional sonography and volumetric mathematic modeling, Am J Perinatology, 27, 151-155 and klimanlabs.yale.edu/epv for details.



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Estimated Placental Volume (EPV)

Dr. Harvey Kliman, working with his father, mathematician Merwin Kliman, has developed a technique to measure Estimated Placental Volume (EPV) during pregnancy. This information has the potential to improve patients' prenatal care and pregnancy outcomes, as small placentas can lead to intrauterine growth restriction, and in severe cases, even intrauterine fetal demise.

For Providers

EPV Articles

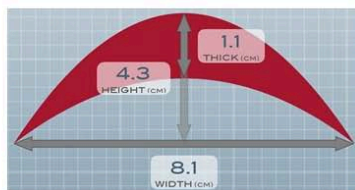
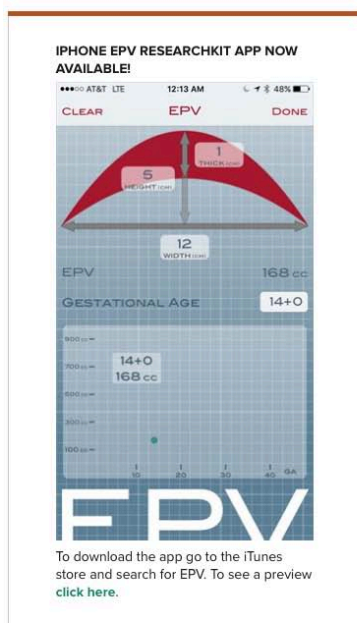
Media

EPV can be measured from 7 to 40 weeks. Use widest angle probe for large placentas. Beyond 36 weeks the placenta may be too large to visualize the entire width.

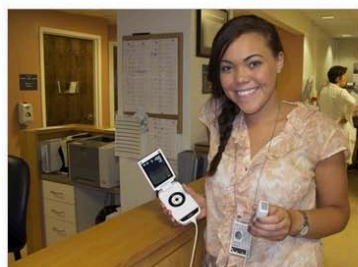
Ideal measurements: Freeze a perpendicular cross section at the maximal width of placenta. Take Width measurements from edge to edge. Start at apex and measure Height and Thickness down to baseline along same line (at right angles to Width line). Height is always greater or equal to thickness.

To download the simple one-page manual [click here](#).

To download the detailed eleven-page manual [click here](#).



The EPV ResearchKit app is designed to allow patients to contribute to research on the relationship between placental volume and a healthy pregnancy. Once downloaded, the patient asks their healthcare provider to measure the width, height and thickness of their baby's placenta and enter the results in the data entry screen.



Amber Anders with our GE Vscan



Placenta is an obvious crescent. Baseline Width is measured from tip to tip (+), yellow line.



Apex is found and Height is measured from apex to baseline (:-), yellow line perpendicular to Width line.