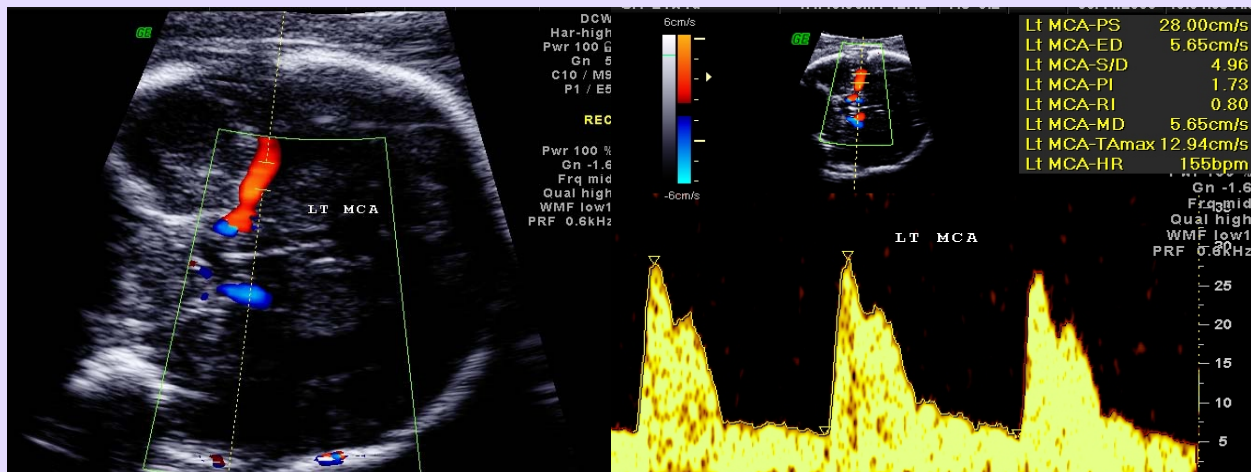


Middle Cerebral Artery Pulsatility Index across gestation



Where to measure: The MCA must be measured with a narrow pulsed Doppler gate in the proximate first 1/3 of the vessel leaving the circle of Willis headed toward the Sylvian fissure. It is best found with the lowest velocity scale with color or Power Doppler. Correct alignment is important to determine the peak systolic velocity.

Why to measure here: Measurements of the MCA immediately adjacent to the circle of Willis may include the ICA. Distal measurement may have a lower velocity even though the vessel appears straight in color (the MCA is actually “S” shaped). High velocity above 55 cm/sec before 30 weeks gestation indicates high cardiac output, usually from anemia.

How to measure: Use color or power Doppler to prove location and direction. Use pulsed Doppler within the first 1/3 of the highlighted vessel. You may need to ask mom to stop breathing for 10 seconds so as to get a good tracing. Repeat any MCA PI less than 1.5 as there may be inadvertent cord compression.

