

SEPTEMBER 27, 2024

Fetal Echocardiogram

Measurements

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B.S.

Colorado Fetal
Care Center

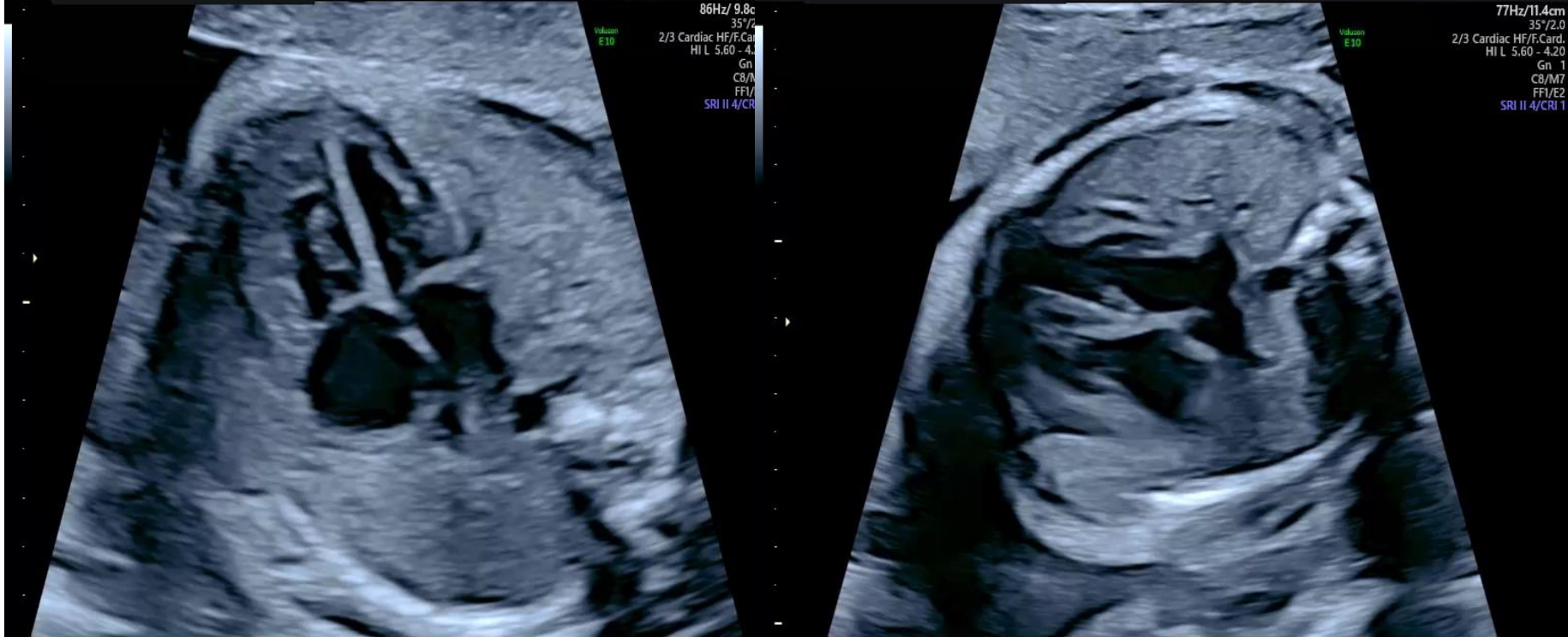


School of Medicine

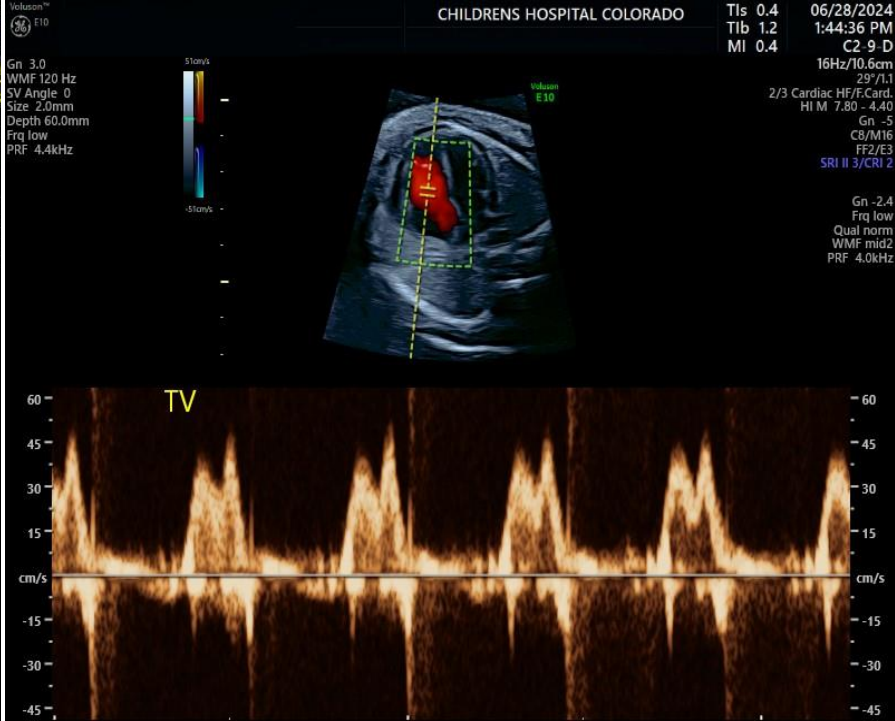
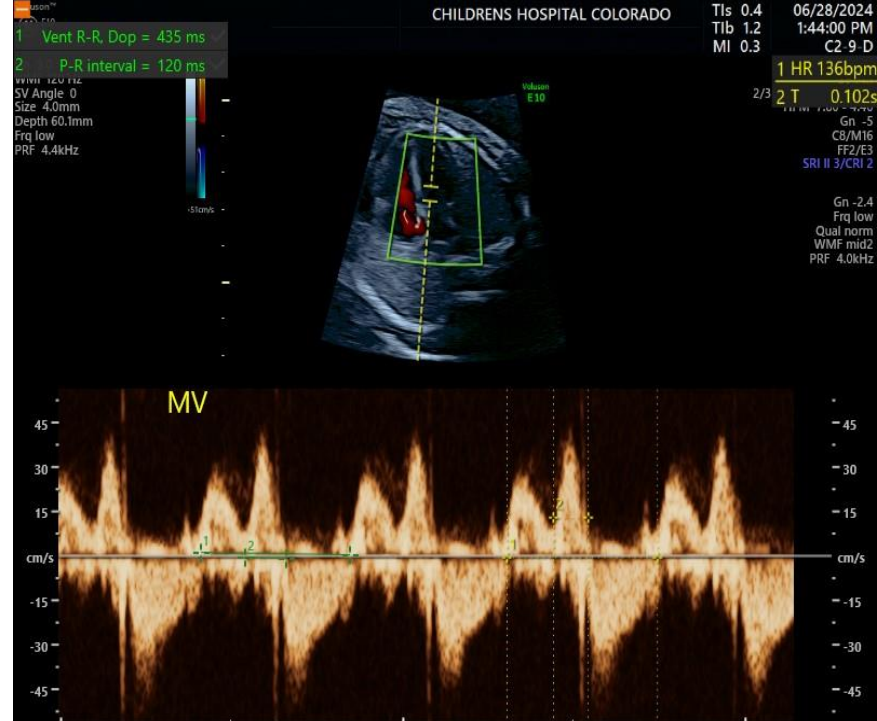
UNIVERSITY OF COLORADO
ANSCHUTZ MEDICAL CAMPUS



I have no disclosures.



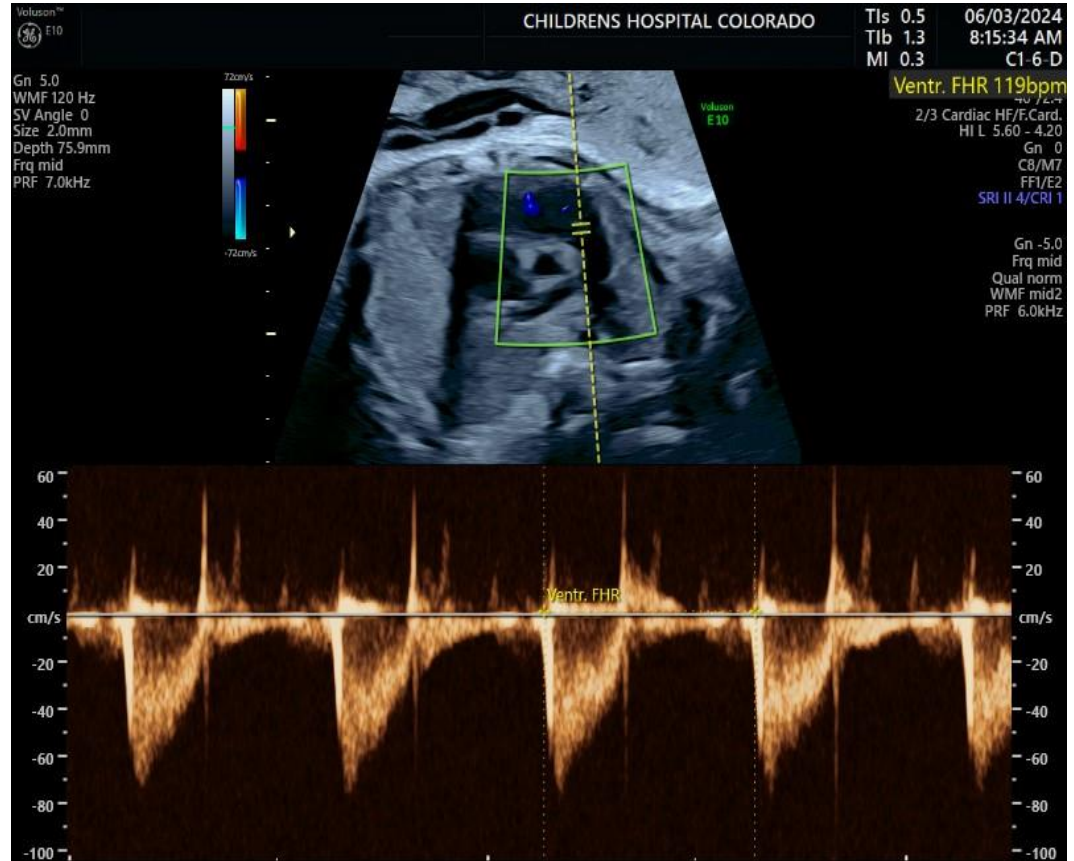


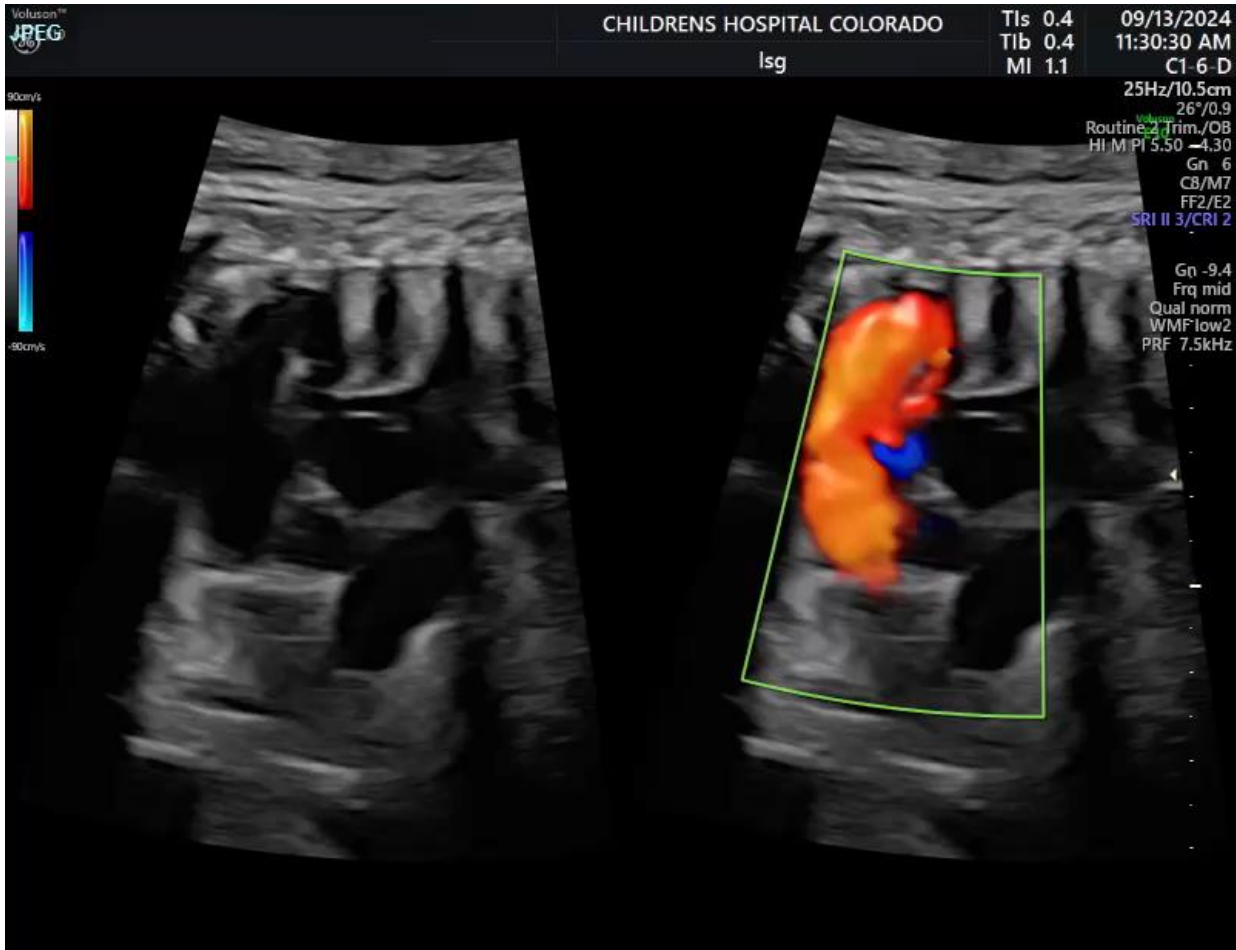


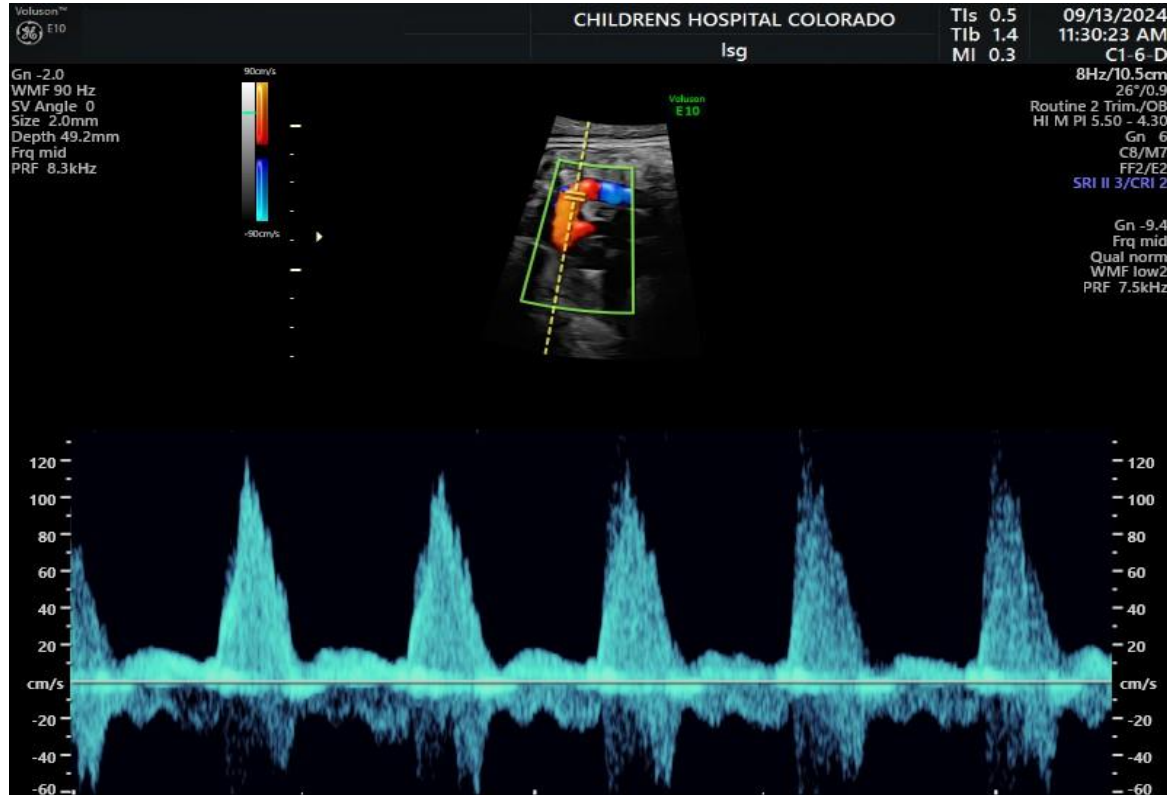
The peak mitral and tricuspid E and A wave Doppler velocity should be around 0.3-0.6 m/s.



Around the gestational age of 22-24 weeks, we are looking for a peak Doppler velocity of about 0.70 m/s.



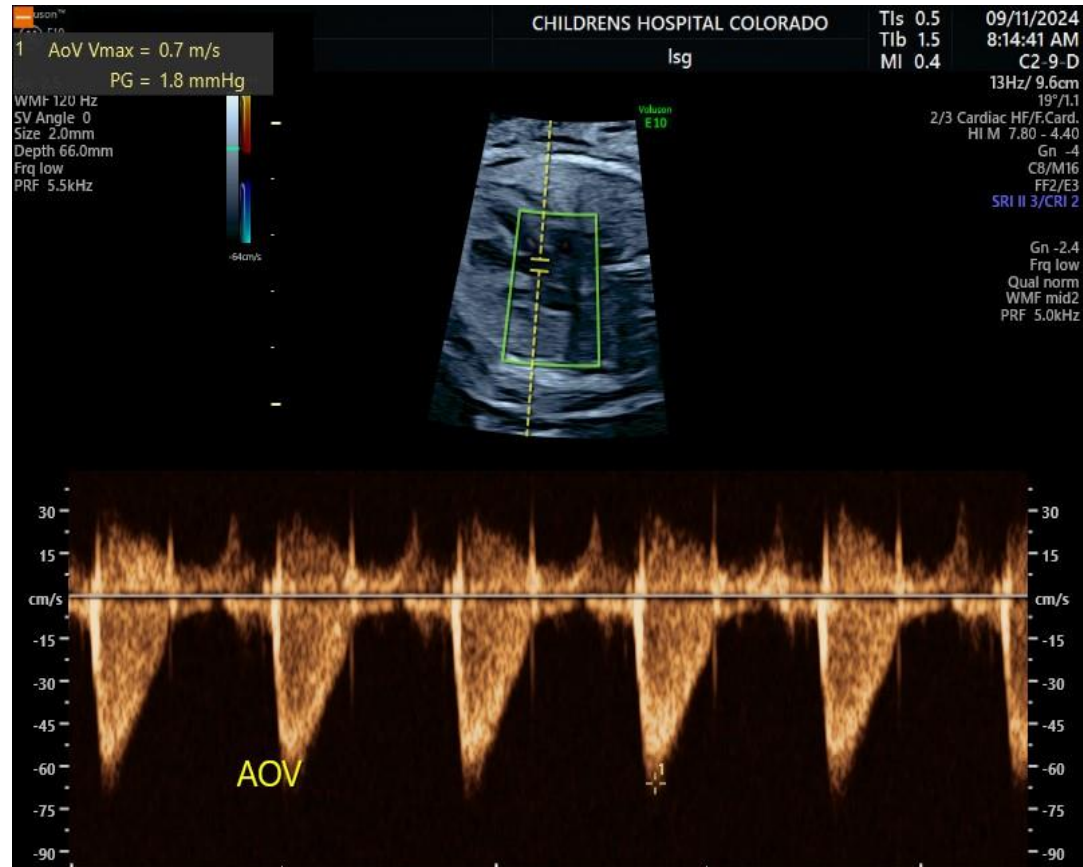








Peak Doppler velocity will vary from about 0.3 m/s at 19 weeks to 1.0 m/s at term.



LSG

Voluson

E10

lsg

Voluson

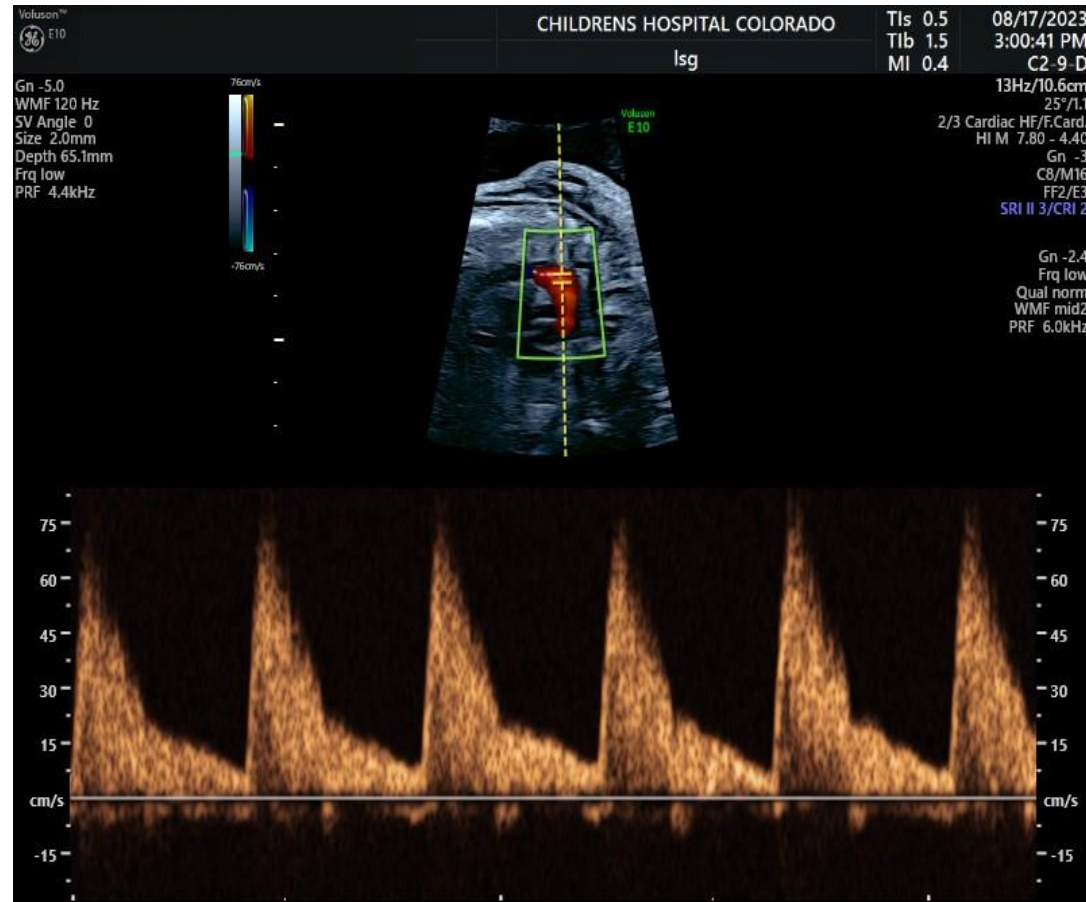
E10







The peak systolic velocity for the aortic isthmus range from approximately 30 to 100 cm/s from 11 weeks to term.



GA used for Z Scores: 23

MEASUREMENTS AND CALCULATIONS:

TRICUSPID VALVE:

TV annulus diam, 4C:	0.53 cm	Z = -1.24
TV E Vmax:	0.3 m/s	
TV A Vmax:	0.4 m/s	
E/A:	0.95	

MITRAL VALVE:

MV annulus diam, 4C:	0.61 cm	Z = 0.25
Peak E:	0.35 m/s	
Peak A:	0.35 m/s	
E/A:	1.01	

PULMONARY VALVE:

PV annulus diam:	0.44 cm	Z = -0.51
AoV/PV annulus ratio:	0.81	Z = -0.21
Peak velocity:	0.70 m/sec	
Peak gradient:	2 mmHg	

AORTIC VALVE:

AoV annulus diam:	0.36 cm	Z = -0.70
AoV/PV annulus ratio:	0.81	Z = -0.21
Peak velocity:	0.70 m/sec	
Peak gradient:	2 mmHg	

Assigned EDD: 3/13/2025

Assigned GA: 15w5d

GA used for Z Scores: 16

CARDIAC FINDINGS:

MEASUREMENTS AND CALCULATIONS:

TRICUSPID VALVE:

TV annulus diam, 4C:	0.25 cm	Z = -1.57
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MITRAL VALVE:

MV annulus diam, 4C:	0.26 cm	Z = -1.56
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PULMONARY VALVE:

PV annulus diam:	0.22 cm	Z = -0.83
AoV/PV annulus ratio:	0.58	Z = -2.53

AORTIC VALVE:

AoV annulus diam:	0.13 cm	Z = -2.97
AoV/PV annulus ratio:	0.58	Z = -2.53

<https://zscore.chboston.org/>

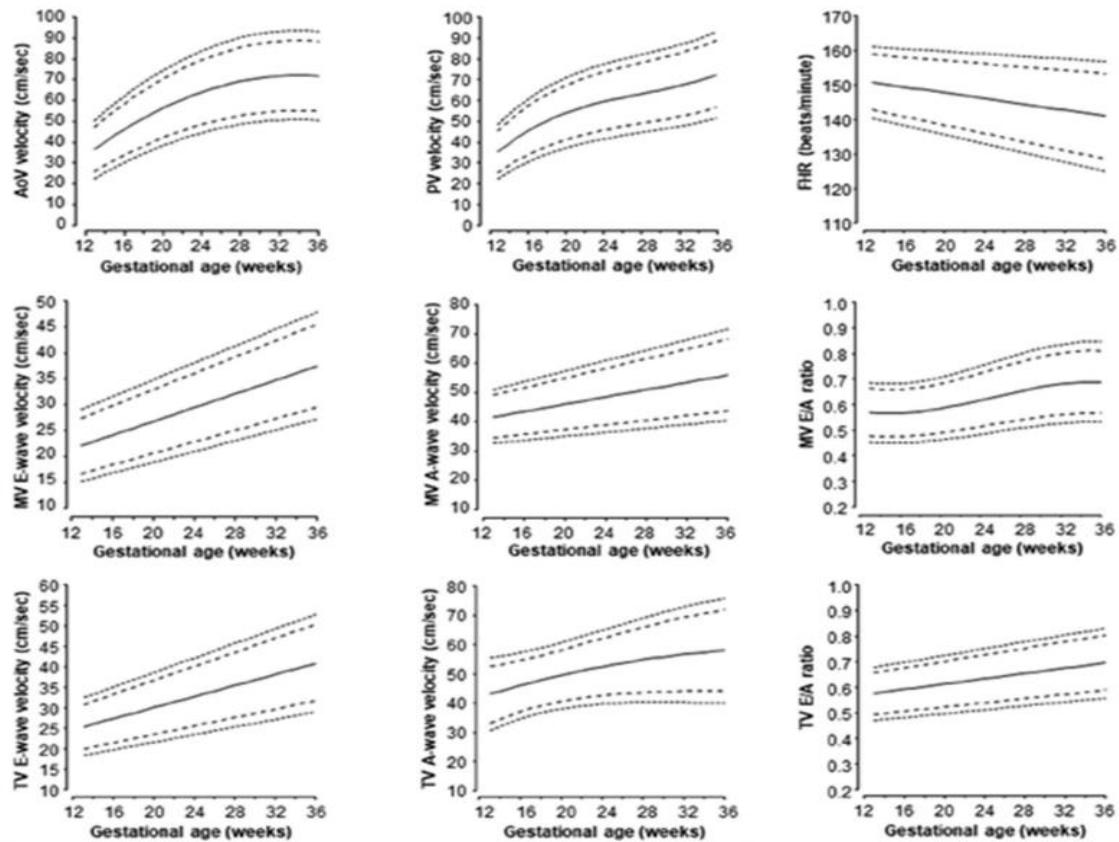
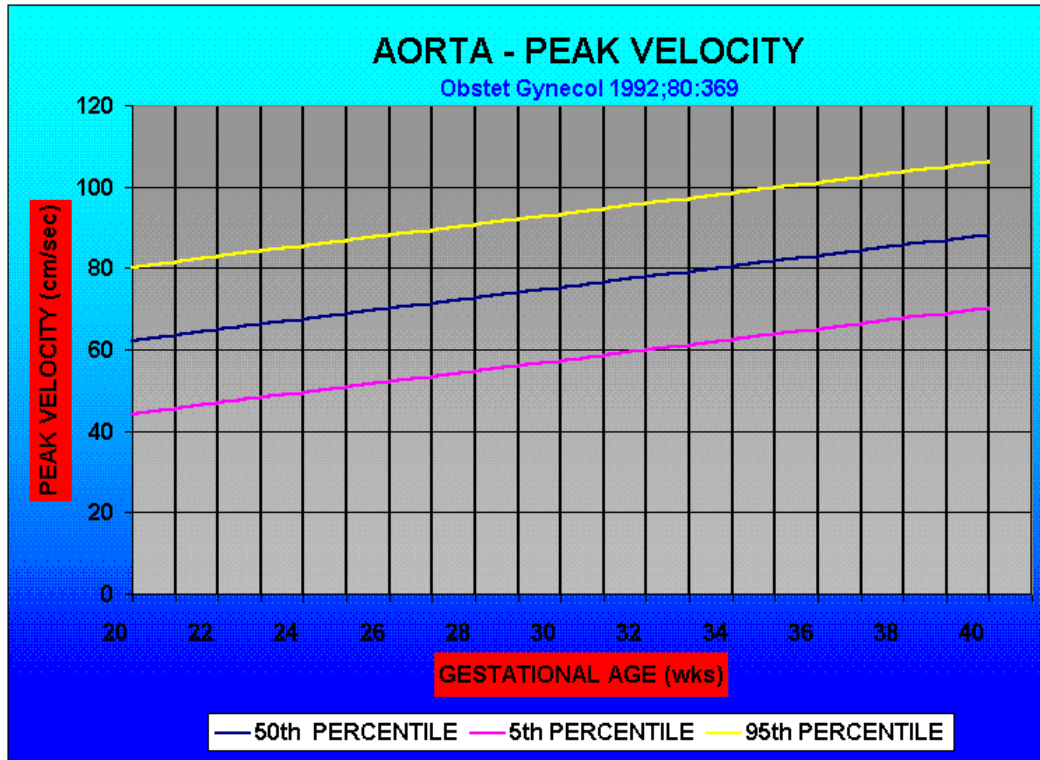
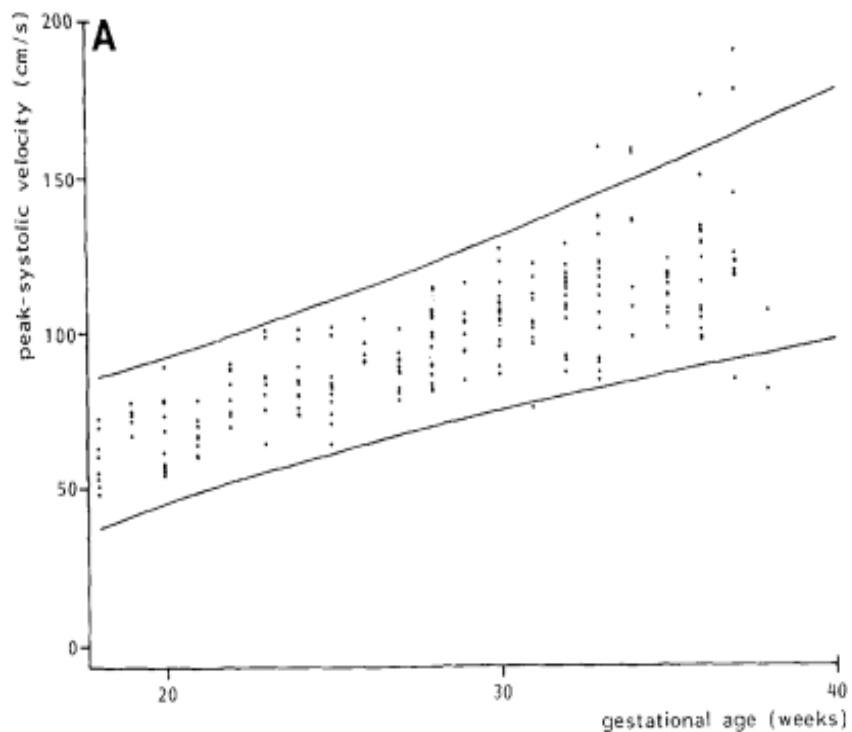


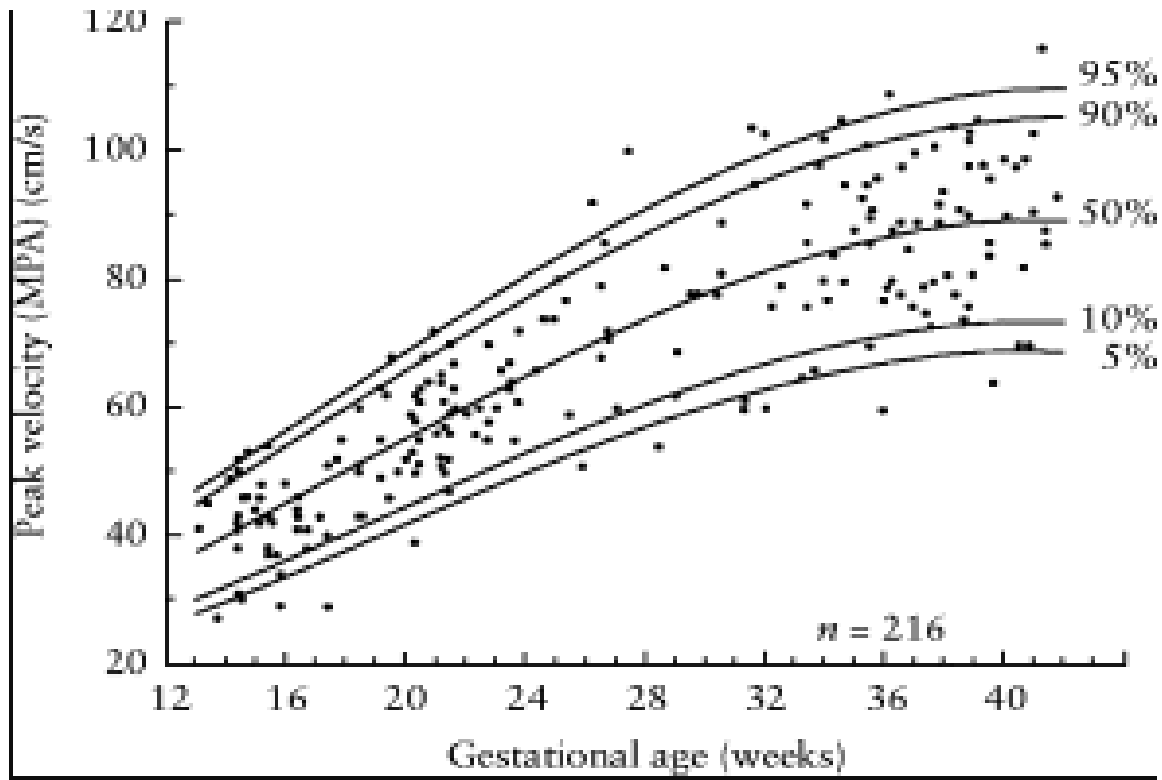
Figure 3 Graphical display of reference ranges for each cardiac Doppler variable with a demonstration of the first, fifth, 50th, 95th, and 99th centiles.

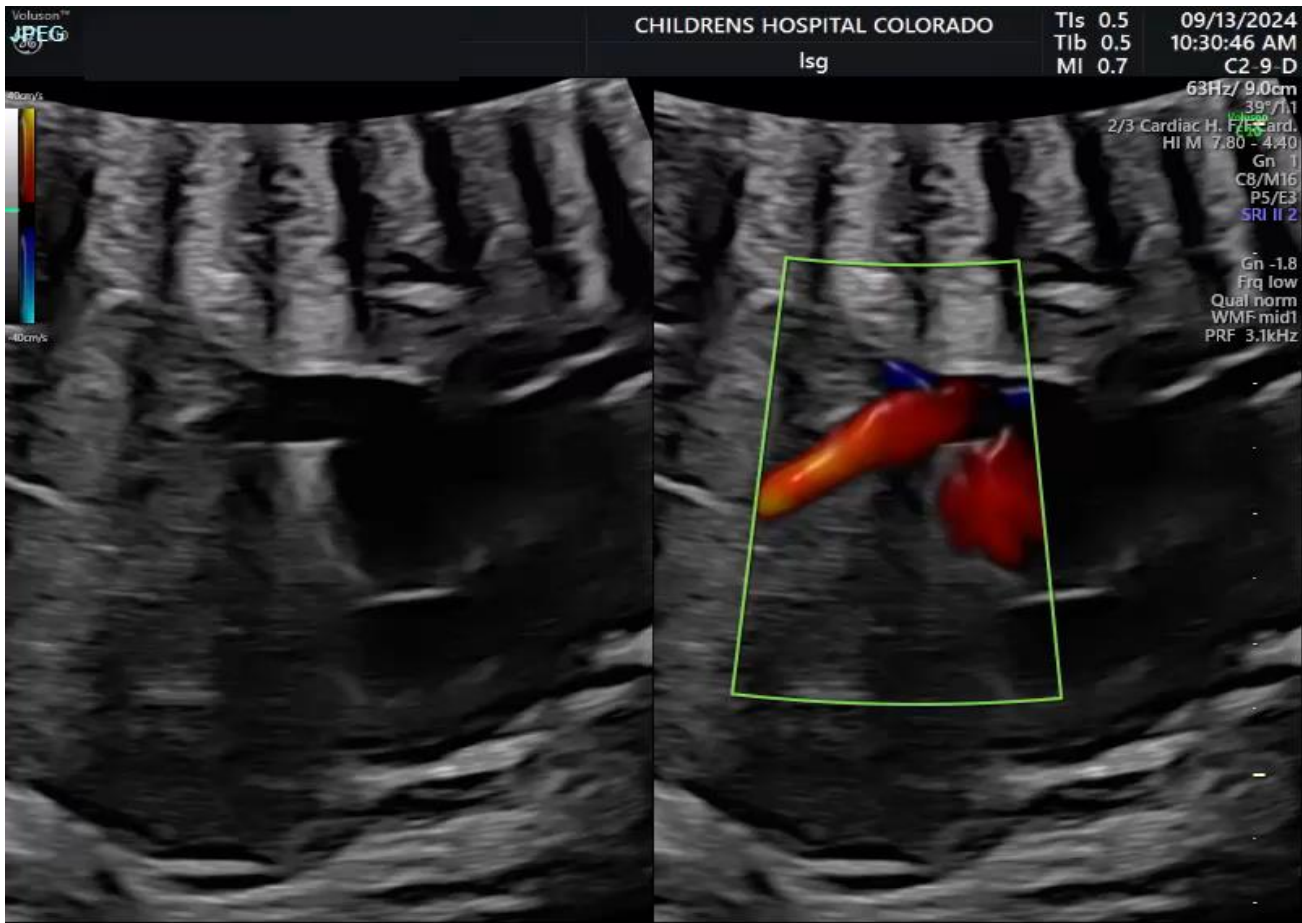


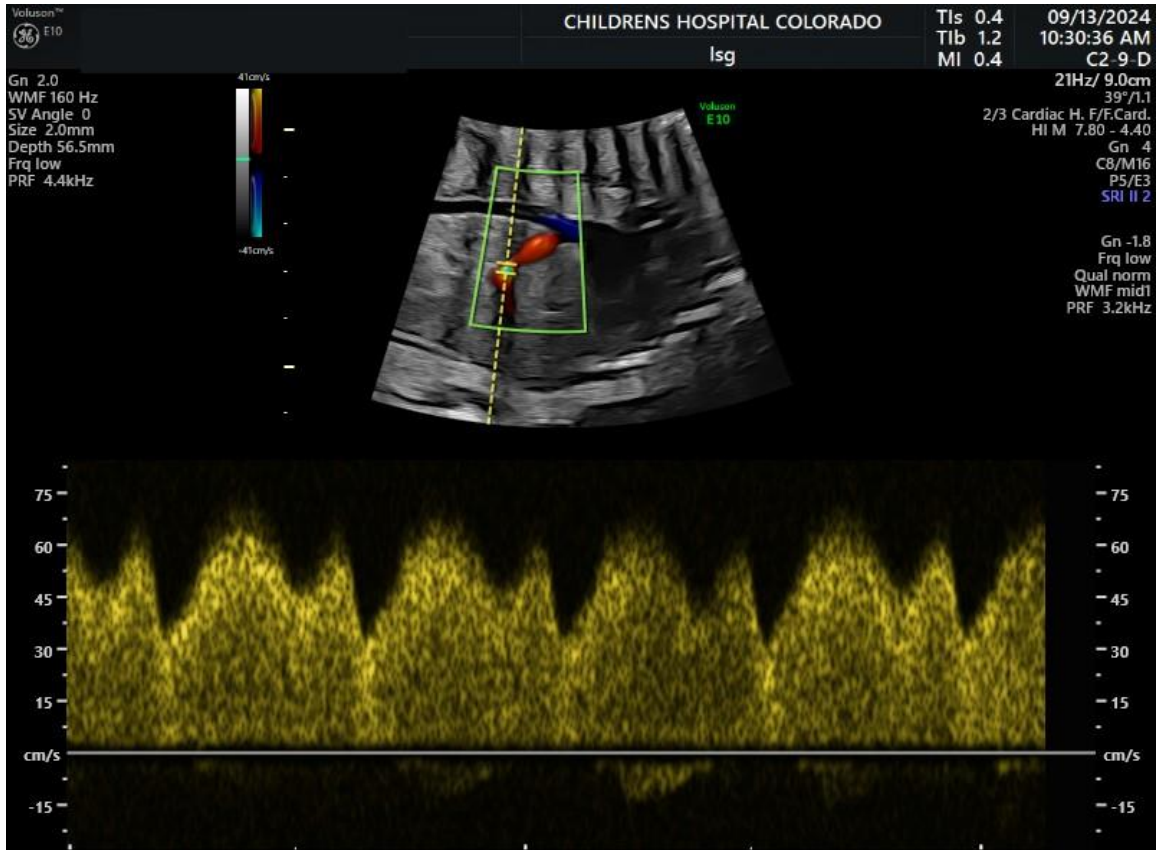
DOPPLER FLOW IN THE HUMAN FETAL DUCTUS ARTERIOSUS

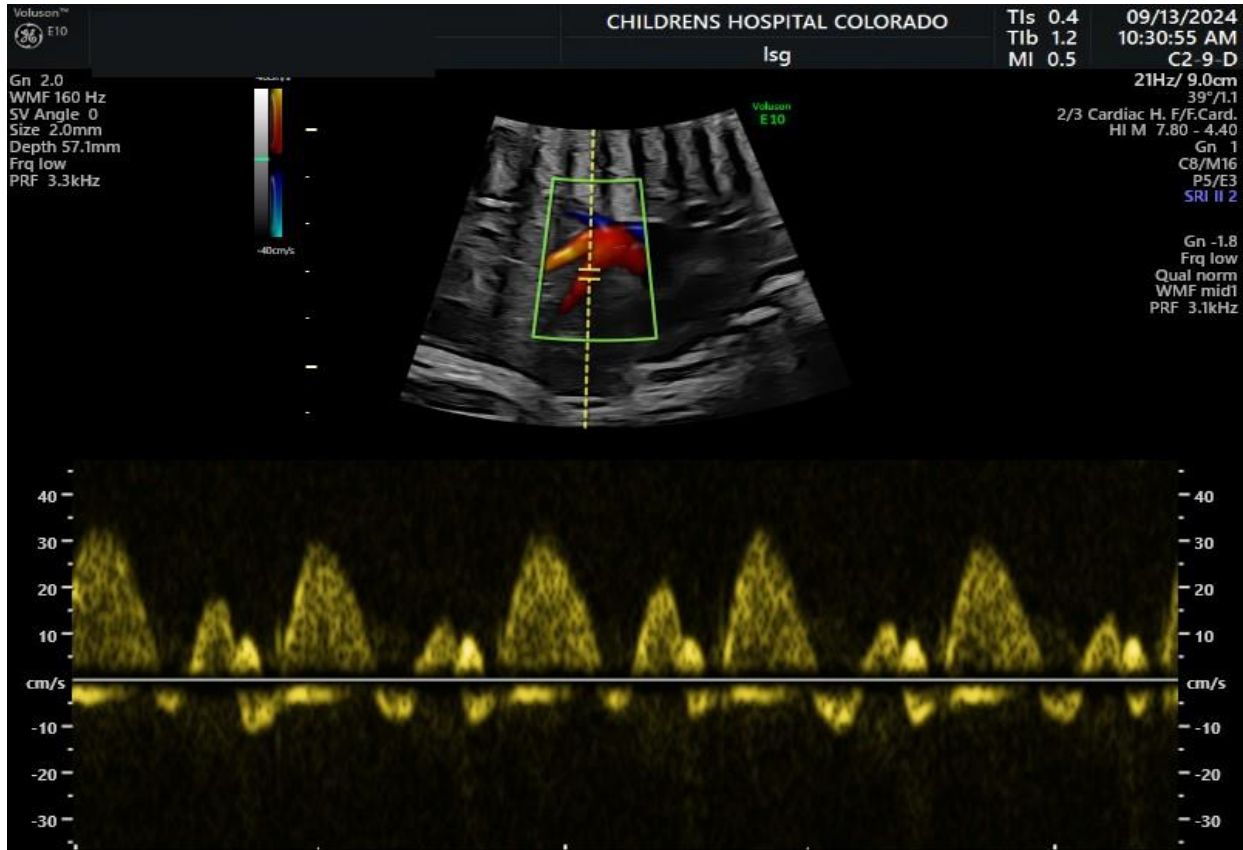
4

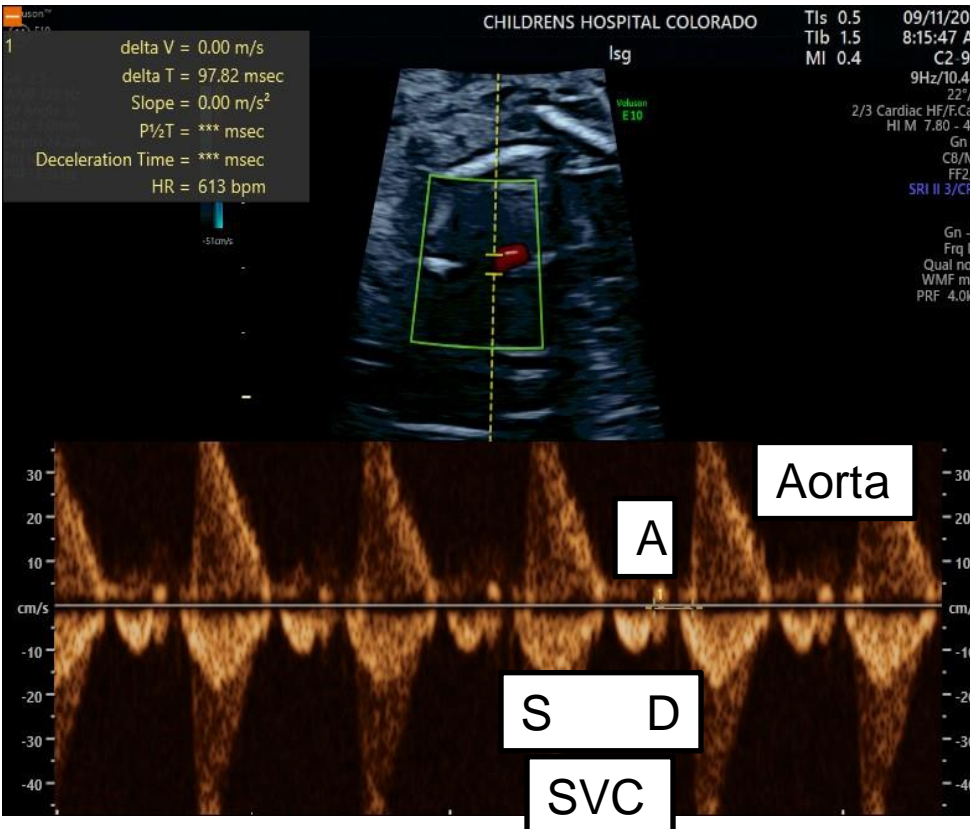
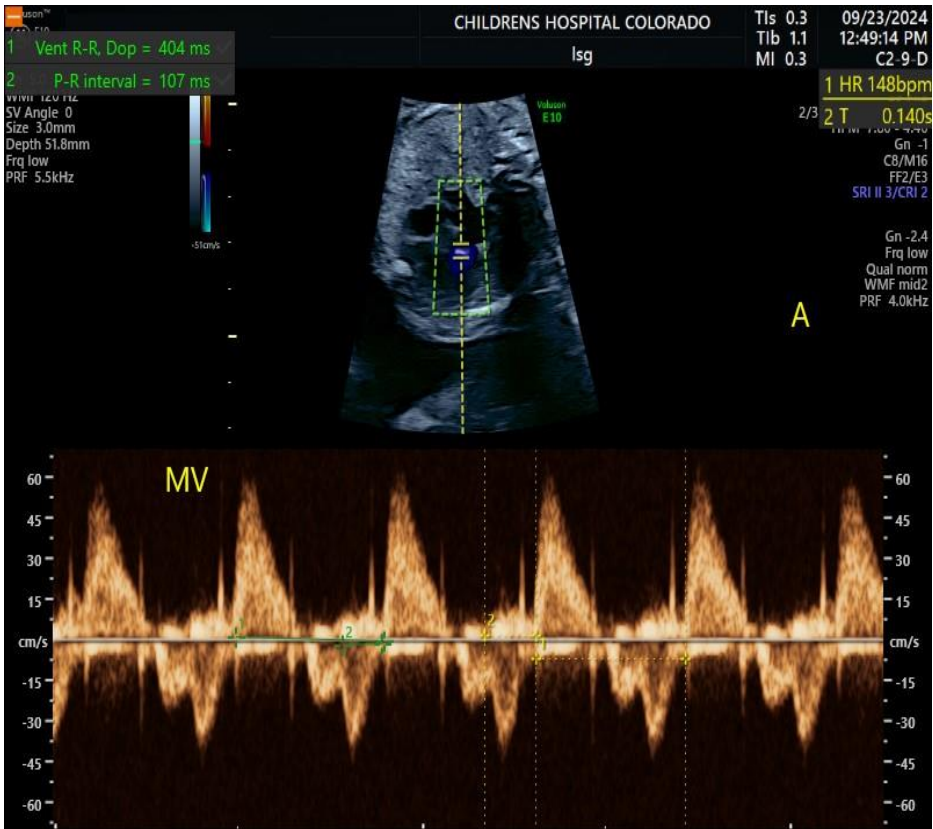


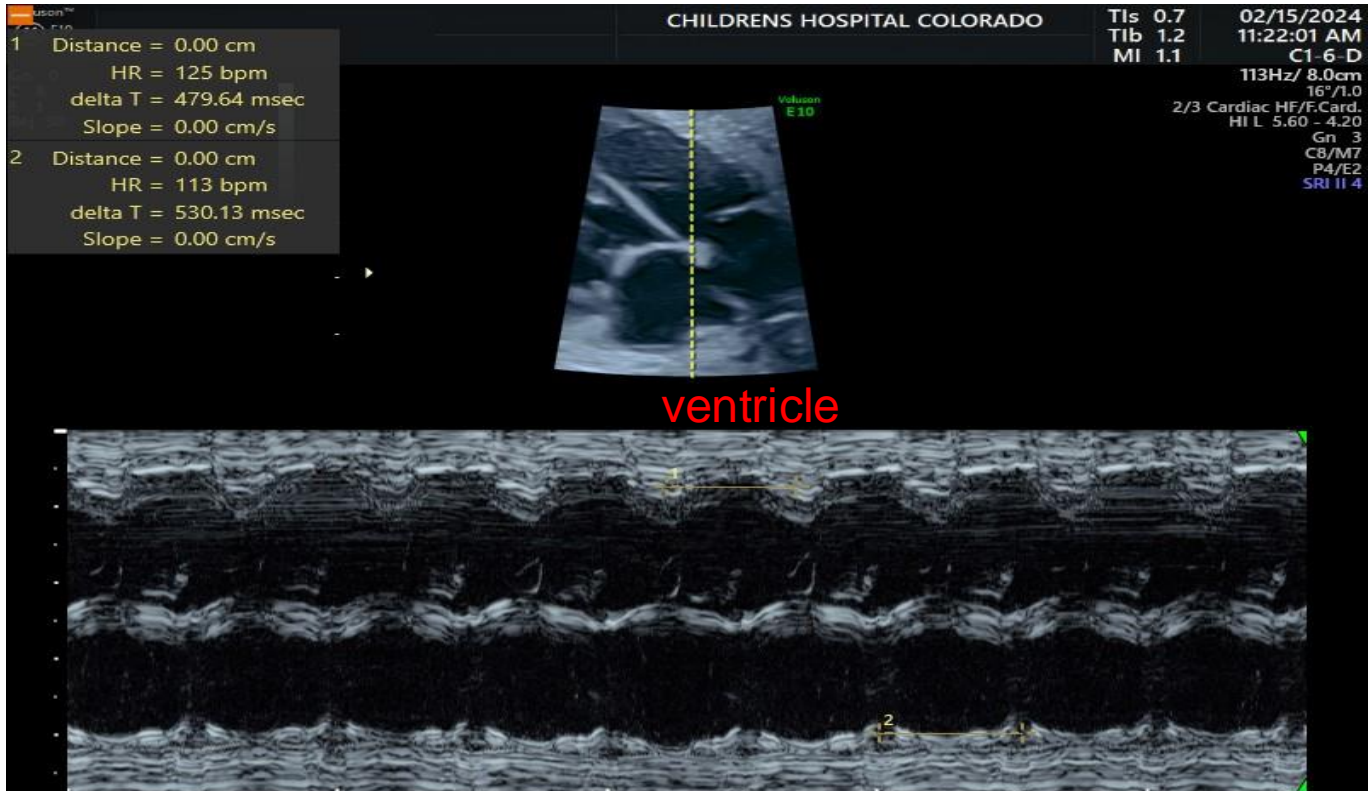


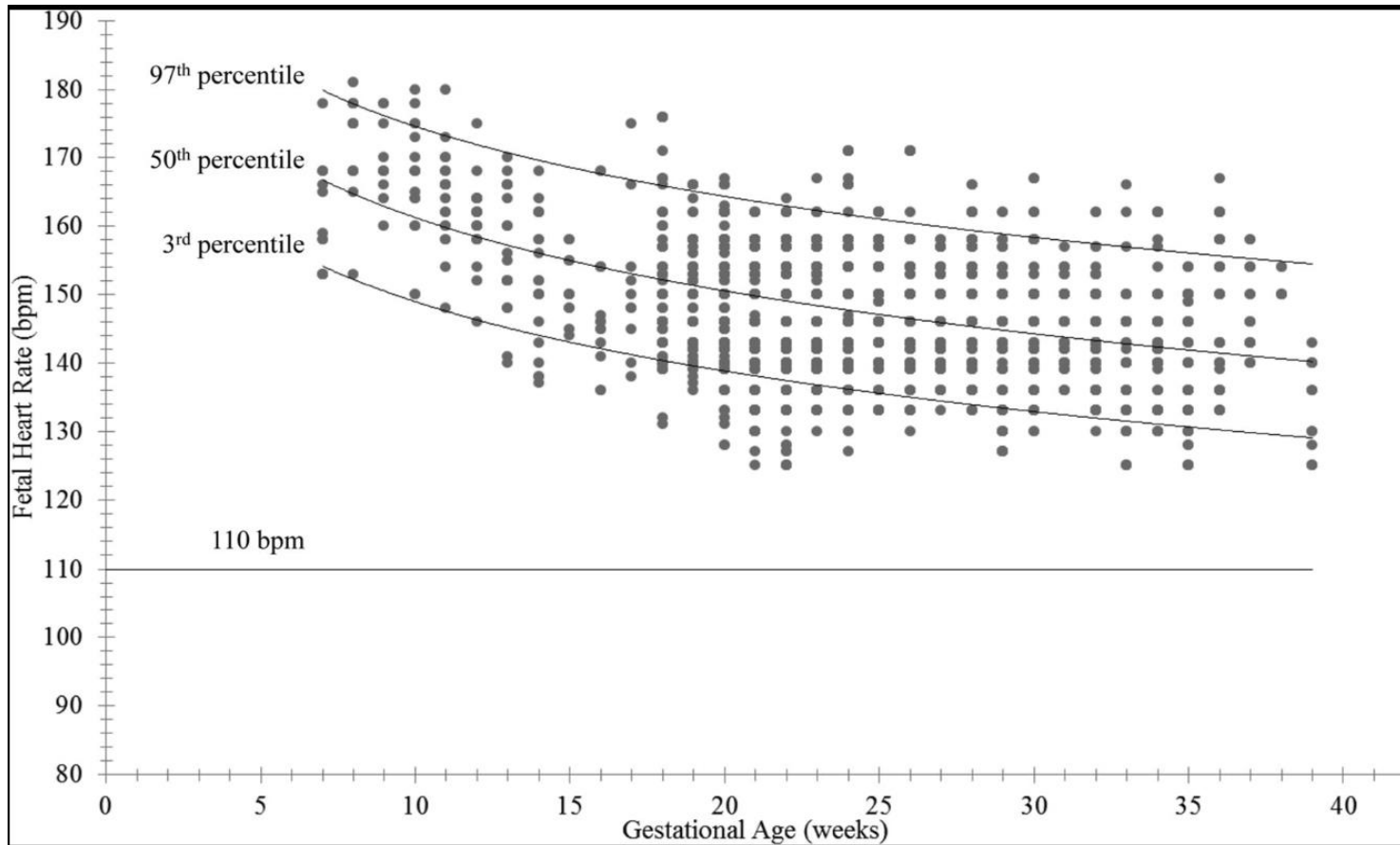






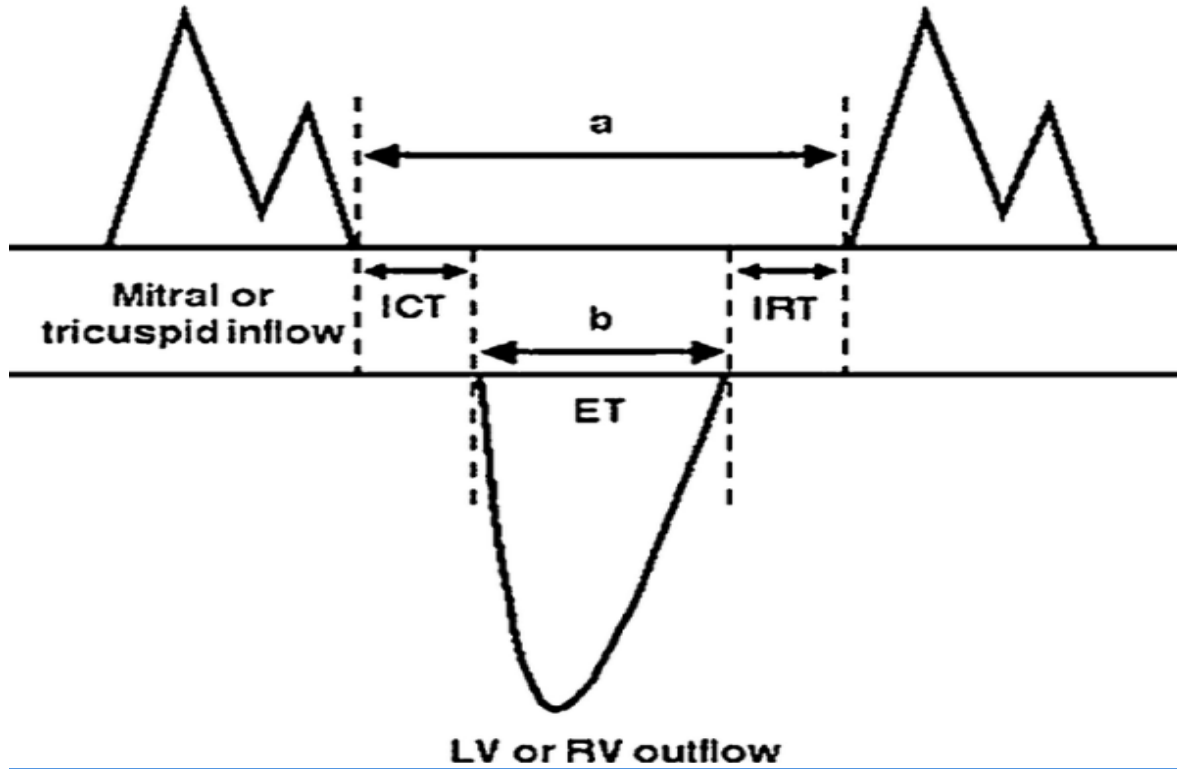


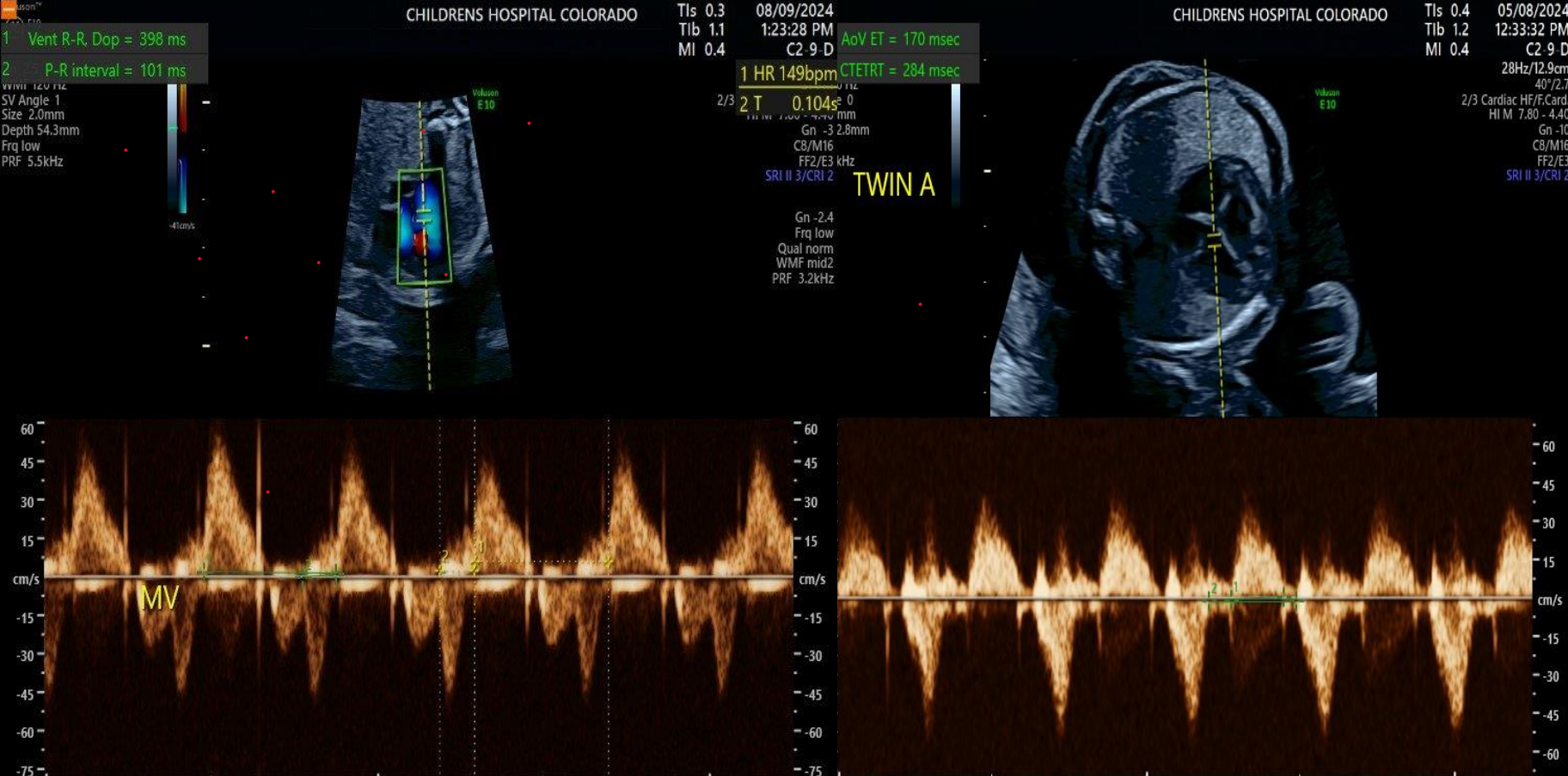


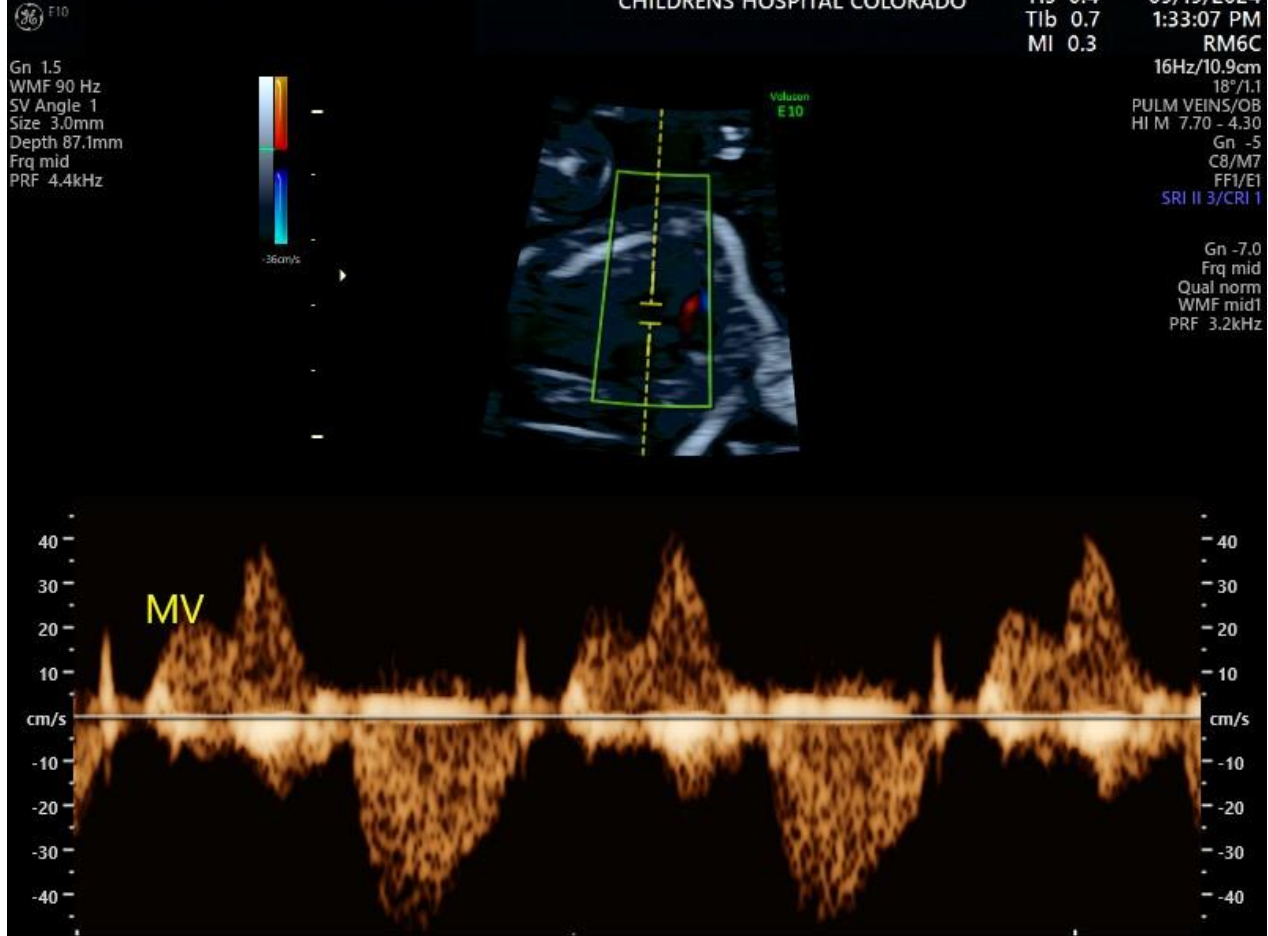


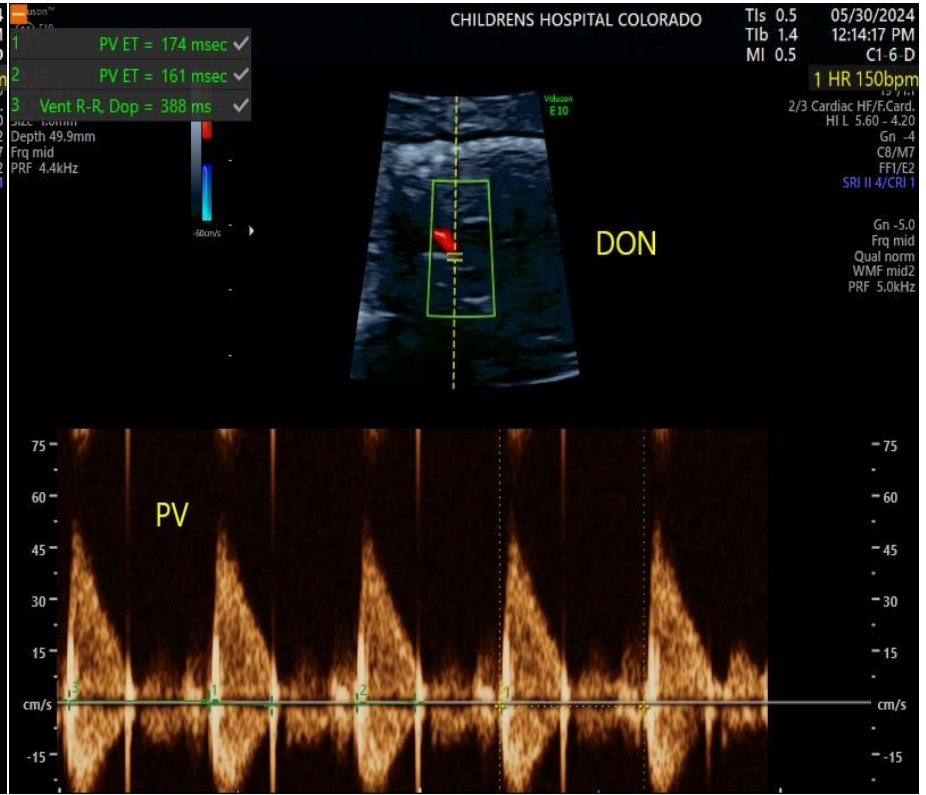
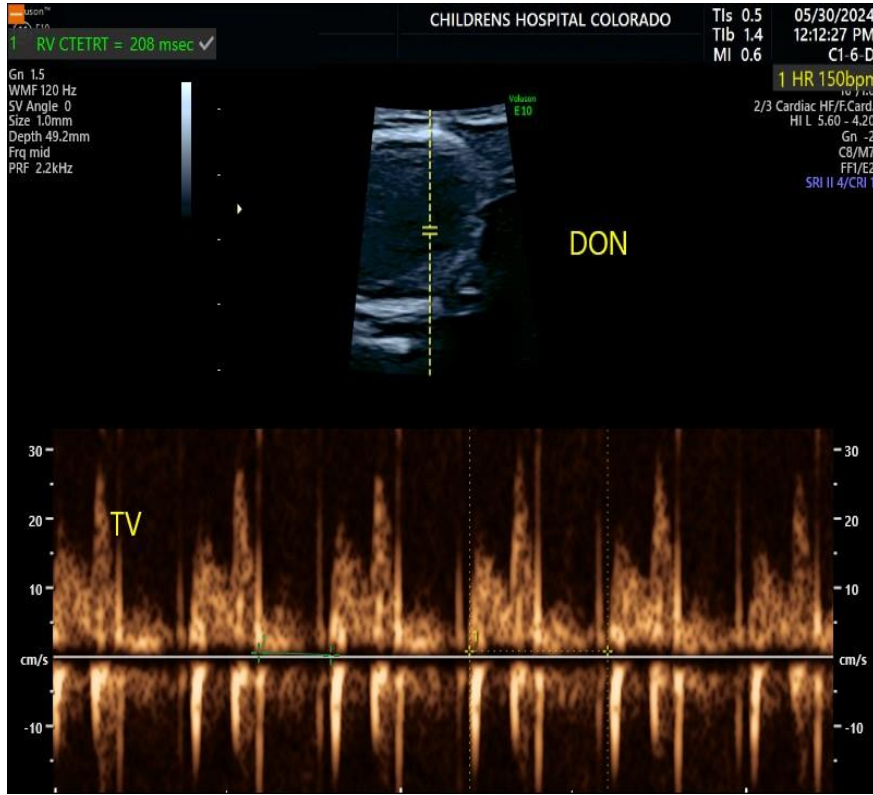


$$\text{Tei index} = (\text{ICT} + \text{IRT}) / \text{ET}$$
$$= (a - b) / b$$









LV TEI	RV TEI
0.33 +/-0.10 with a range of 0.23-0.42 (normal)	0.32 +/- 0.16 with a range of 0.16-0.18 (normal)
0.44-0.47 (3A)	0.49-0.55 (3A)
0.48-0.52 (3B)	0.56-0.63 (3B)
0.53 and > (3C)	0.64 and > (3C)



Thank you!

Normal Doppler Velocities