

Figure 3: Echo Protocol, Measurements and Iowa Scoring System

<u>IMAGE LIST</u>
<u>High PSAx</u>
<ul style="list-style-type: none"> • Color compare sweep (juxtaductal arch to PA) • Color compare of PDA • PDA doppler
<u>PSAx</u>
<ul style="list-style-type: none"> • Color compare sweep at the Pulmonary valve/MPA
<u>PLAx</u>
<ul style="list-style-type: none"> • 2D (LA-Ao ratio) • MMode across Ao/LA
<u>A4C</u>
<ul style="list-style-type: none"> • Color compare sweep (posterior [IVC] to anterior [PA]) • Pulm Vein doppler (only need 1) • Mitral PW (above, at, below) • MV inflow/AV outflow doppler • Ao PW/CW • PA PW/CW
<u>Subcostal</u>
<ul style="list-style-type: none"> • Desc AO doppler
<u>Notch</u>
<ul style="list-style-type: none"> • Color compare sweep (pt's R-L) • Distal transverse arch doppler (r/o coarc)

<u>Report Template:</u>
PV D Wave Velocity
Mitral E Wave Velocity
IVRT
LA:Ao ratio
LVO:RVO ratio (formulas on bottom left)
Aortic diastolic flow reversal (Y/N)
PDA Diameter/Pt Wt
Ductal Dependent lesion? (Y/N)

<u>Measurements</u>
M-Mode
1. PSAx (just below the mitral valve leaflet tips in between the papillary muscles) <ul style="list-style-type: none"> ◆ RVd ◆ IVSd ◆ LVDd ◆ LVPWd ◆ IVSs ◆ LVDs ◆ LVPWs
2. PLAx <ul style="list-style-type: none"> ◆ AOD ◆ LA
2D
1. PDA diameter (in ductal view 2D)
2. Aortic valve annulus (PLAx)
3. Pulmonary valve annulus (PSAx)
4. Mitral valve annulus (A4C)
5. Tricuspid valve annulus (A4C)
6. LPA diameter (2D)
Doppler
1. PDA peak velocity (w/ continuous L-R shunt)
2. RVOT, PI peak, PI end diastole, PV, LPA, RPA peak velocities
3. MV E and A ratio
4. LVOT, AoV peak velocities
5. TR
6. Descending aorta peak velocity

IOWA PDA SCORE	0 points	1 points	2 points
Mitral E Velocity	< 45	45-80	≥ 80
IVRT	> 50	30-50	≤ 30
PV D Velocity	< 0.3	0.3-0.5	≥ 0.5
LA:Ao Ratio	< 1.3	1.3-2.2	≥ 2.2
LVO:RVO	≤ 1	1-1.7	≥ 1.7
Aortic (or peripheral) flow	Forward		Reverse
PDA diameter/wt (mm/kg)	<1.5	1.5-3.0	≥ 3.0

(Iowa PDA Score from Giesinger et al, Protocol for Echocardiography Screening of Extremely Low Birth Weight Infants in the Transitional Period, www.neonatalhemodynamics.com)