SickKids | Labatt Family Heart Centre

Full Anatomical Study (The Standard Echocardiogram)

Window	Anatomy	Images	Notes
Subcostal	Abdominal Situs	○ Transverse (short axis) situs view with cross-section of IVC, Abd Ao, spine (2D + colour) ○ Transverse (short axis) situs sweep from cross-section cephalically to the heart (2D + colour) ○ Sweep from short axis to long axis of IVC then sweep to the Abd Ao (2D + colour)	Indicator at 3 o'clock Demonstrate the IVC draining to atria Demonstrate position of the heart and apex
	IVC	○ Long axis view of IVC (2D +colour) ○ PW hepatic vein	Decrease sweep speed to show respiratory variation
	Abd Ao	○ Long axis view of Abd Ao (2D +colour) ○ PW Abd Ao	Optimize Doppler angle
	Full Heart	○ Coronal long axis sweep from posterior to anterior (2D + colour) ○ Sagittal short axis sweep from right to left (2D + colour)	Indicator at 3 o'clock Indicator ~ 5 o'clock
	SVC	○ "Bicaval view" (2D + colour) ○ PW SVC	Indicator ~ 6 o'clock
	RVOT	○ RVOT view with pulmonary valve (2D + colour)	Indicator ~ 7 o'clock
	LVOT	○ LVOT view with aortic valve and ascending aorta (2D + colour)	Indicator ~ 4 o'clock

Parasternal Long Axis	LV, AoV, MV	○ Parasternal Long Axis (2D) ○ AoV (colour) **M** Measure AoV annulus ○ MV (colour)	Indicator toward patient's right shoulder
	RV inflow	○ RV IT view (2D + colour) **M** CW TR (estimate RVSp)	Ensure the LV is no longer in view
	RV outflow	○ RVOT view (2D + colour) **M** CW through RVOT (measure peak gradient and estimate meanPAp)	Measure PI only at early diastole, mean PAp reliable only with < mild+ PI
	VSD (r/o)	○ Sweep the IVS from RVOT to RVIT (2D + colour)	Use appropriate colour scale

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Parasternal Short Axis	VSD (r/o)	○ Sweep IVS from AoV level to apex (2D + colour)	May need to do 2 sweeps (one with colour box over anterior septum, one over inferior septum)
	M-mode	**M** M-mode of ventricles (measure RVd, IVSd, LVd, PW, LVs) – report FS/EF	Just below the MV leaflets; RV anterior to LV
	AoV level	○ AoV level (2D + colour) ○ Tricuspid Valve (2D + colour + CW TR) ○ Pulmonary Valve (2D + colour) **M** Measure PV annulus **M** CW through RVOT (estimate meanPAp)	Demonstrate tricuspid AoV
	Coronary arteries	○ RCA origin (2D + colour) ○ LCA origin with bifurcation of LAD and Cx (2D + colour)	Try rotating clockwise to open LCA origin
	MV level	○ Mitral Valve (2D + colour)	Ensure entire anterior MV leaflet is seen
	LV levels	○ Basal level ○ Papillary Muscle level ○ Apical level	Demonstrate function + wall motion + septal curv
High Parasternal	Branch PAs	○ Branch pulmonary arteries with bifurcation (2D + Colour) **M** Measure RPA and LPA origin	Indicator ~ 3 o'clock
	Pulmonary Veins	○ "Crab view" of four pulmonary veins draining to LA (2D + colour)	Angle anteriorly from Branch PAs, can try in SSN or subcostal if not well seen (esp RUPV)
	PDA (r/o) and isthmus	○ "Ductal cut" demonstrating LPA and Ao isthmus side-by-side (2D + colour) ○ Colour sweep right to left to r/o small PDA	Indicator ~ 12 o'clock

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Apical	4 chamber	○ All 4 chambers (2D) ○ Colour LV inflow **M** Measure MV annulus ○ PW mitral inflow ○ PW for IVRT ○ PW pulmonary vein	Ensure your LV apex is centered in your near-field, optimize Doppler angle
	4 chamber-RV	○ RA and RV (2D) ○ Colour RV inflow **M** Measure TV annulus ○ PW tricuspid inflow **M** CW TR (estimate RVSp)	Slide medially to place RV apex in center of near-field
	5 chamber	○ LVOT (2D + colour) **M** CW LVOT (measure peak gradient)	Angle anteriorly with slight clockwise rotation
	2 chamber	○ LA and LV (2D + colour)	Rotate counter-clockwise (~1:00)
	3 chamber	○ "Apical long axis" with MV and AoV (2D + colour)	Rotate counter-clockwise (~11:00)
	VSD (r/o)	○ Colour sweep IVS from anterior to posterior	From a medial 4 chamber view
Supra-sternal	Arch Sidedness	○ Sweep superiorly to demonstrate branching pattern and determine arch sidedness (2D + colour)	Indicator at 3 o'clock
	LSVC (r/o)	○ Colour sweep laterally to follow the innominate vein toward left side	Ensure low velocity scale
	RSVC	○ RSVC (2D + colour)	Indicator at 3 o'clock
	Aortic Arch	○ Long Axis of aortic arch (2D + colour) ○ CW descending aorta	Indicator at 12 o'clock if left arch