PROTOCOL: PERICARDIAL DISEASE

Inclusion Criteria

- Referral: Constriction, constrictive pericarditis, pericarditis, pericardial disease
- Patient is status post pericardiectomy (**NOT a hospital dismissal echo**…see Dismissal Protocol)
- Patient returning for follow-up after pericadiocentesis (drain has been removed)
- Assessment for cardiac tamponade (assess chamber collapse, exclude strain)
- *Note: Suspect constriction for patients in heart failure following cardiac surgery*

EIMS Data

Procedure Components: 2D Ext, Color Flow, Dop Ext, TDI, M-mode, Color M-mode, Respirometry, Strain
Serial Study: General
Findings: "Echo performed per pericardial disease protocol" *and* constriction result
Billing Diagnosis: Pericarditis Constrictive (HCC) if applicable, otherwise symptoms (SOB, CHF, etc.)
Performable: 2D ECHO DOPPLER COLOR **Charge Capture:** Myocardial Strain - Hospital

Obtain **Standard TTE + LV strain + RV free wall strain +10 beat clips with *respirometer* of:**

2D	CFI	Doppler	Measurement
Parasternal			
PLAX PSAX M-mode PSAX or PLAX			
Apical			
A4C		PW - mitral inflow PW - TV (from best window)	MV E velocity - insp / exp TV E velocity – insp / exp
Other Windows (Subcostal, SSN, RSC)			
IVC	Color m-mode - HV	PW - HV PW - SVC	

Caveats and Tips

Follow-up exams: Use *LV Function Protocol,* add LV lateral TDI, strain, and the above images
Respirometer: Quality tracings are critical (see Respirometer Tips document)
HV & SVC tips: ↓ color scale, ↑ SV size (5 to 7 mm), insure SV stays within flow
Tissue Doppler: Velocities may vary so measure the highest (respirometer not needed)
Pericardiectomy: Perform strain to evaluate for resolution of regional strain abnormalities
Strain: Constrictive pericarditis shows a specific strain pattern of *regional* changes (↓ in lateral walls [LV and RV], preserved or ↑ septal wall)

Constriction:	Restriction:
RV free wall strain < LV septal strain	RV free wall strain > LV septal strain
LV free wall strain < LV septal strain	LV free wall strain ≥ LV septal strain

If strain can't be performed on all segments partial analysis can still help determine regional variation (e.g. 4C and RV views may distinguish septal from free wall strain)

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