Stimuli

Ischemia, LV strain, Age, Arrhythmia, Systolic LV dysfunction, CPB (Cardio-Pulmonary Bypass) or ↓ activity of SERCA

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Impaired diastolic filling

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Increased end diastolic pressure of LV

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Upwards and to the left shift of LV pressure/volume relationship

↓

Diagnosis

Symptoms of Heart failure with elevated end-diastolic pressure: 24±8 mmHg, normal EF, normal chamber size & LVH

Prolonged relaxation pattern E/A=1
time constant of LV relaxation is longer > 50-55 msec

Pseudonormal pattern

LV passive –stiffness constant is high > 0.025

Restrictive pattern

E/A = 2 and DT=150ms

E-wave deceleration 350±140ms

non-invasive (Doppler, MR-myocardial tagging, radionuclide ventriculography) and invasive (micromanometry, angiography).