

Symptoms + Signs of Heart Failure

Left-sided Heart Failure

Forward failure:

Doesn't pump enough blood into systemic vessels to meet body's metabolic demands

(Low cardiac output)

Symptoms (history)

- **Dyspnea**: SOB, esp w/ activity (due to pulmonary congestion and tissue hypoxia; grade w/ NYHA levels 1-4)
- **Weakness**: Low tissue (esp muscle) perfusion
- **Fatigue**: Low perfusion of tissues and brain

P/E Signs

- **Tachycardia** (Sympathetic compensation to ↑ CO; sympathetic activation also → **Diaphoresis**)
- **Tachypnea** (another compensatory mechanism)
- **Low pulse pressure (Low pulse volume)**
- **Cool, Clammy extremities** (peripheral vasoconstriction diverting precious SV to core)
- **Reduced urine output**
- **Reduced cognitive function, ↓LOC**

Note: other symptoms and signs depend on the specific underlying cause of the HF.

Other investigations: CXR, ECG, Echocardiogram, BNP (if not sure dx is HF)

Backward (Congestive) Failure (CHF):

Blood pumped forward when cardiac filling pressure is abnormally high; pulm cap pressure > 20mmHg

(Pulmonary edema/systemic congestion)

- **Orthopnea**: Immediate SOB when lying down: blood & pulmonary edema both settle in gravity-dependent lung regions → VQ mismatch. Relieved by sitting upright, letting fluid settle down to lower lobes, diverting bloodflow to better-ventilated upper lobes
- **Paroxysmal Nocturnal Dyspnea (PND)**: Severe breathlessness that wakes people up after 2-3 hrs of sleeping. During the 2-3 hours, edema is reabsorbed back into blood, ↑ing blood volume, ↑ing bloodflow to lungs, ↑ing pulmonary edema
- **Dyspnea**: pulmonary venous congestion >20mmHg → transudate fills alveoli

- **Pulmonary crackles, usually bilateral, starts @ lung bases** (small airways, clogged with transudate, popping open during inspiration)
- **Wheezing/Rhonchi** (pulmonary congestion compresses airways!)
- **S3** (turbulent flow into an overfilled left ventricle – systolic dysfunction)
- **S4** (atrial contraction against a stiff ventricle – diastolic dysfunction)
- **Loud (palpable) P2** (pulmonic valves close forcefully, due to pulm HTN)
- **Diffuse apical beat** (LV has enlarged; i.e. dilated cardiomyopathy)
- **Sustained apical beat** (LV under pressure overload; i.e. aortic stenosis, HTN)

With Associated R-heart failure (common finding!):

- **High JVP** (w/ positive AJR)
- **Peripheral edema** (pitting; starts of at feet, moves into abdomen as ascites with severe congestion)
- **"RV heave" upon palpation** (RV enlargement)
- **Hepatosplenomegaly** (and associated RUQ discomfort)