





The 2022 Heart Failure Clinical Playbook


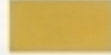
Visualizing the ACC/AHA/HFSA Practice Guidelines

Medical UI Legend

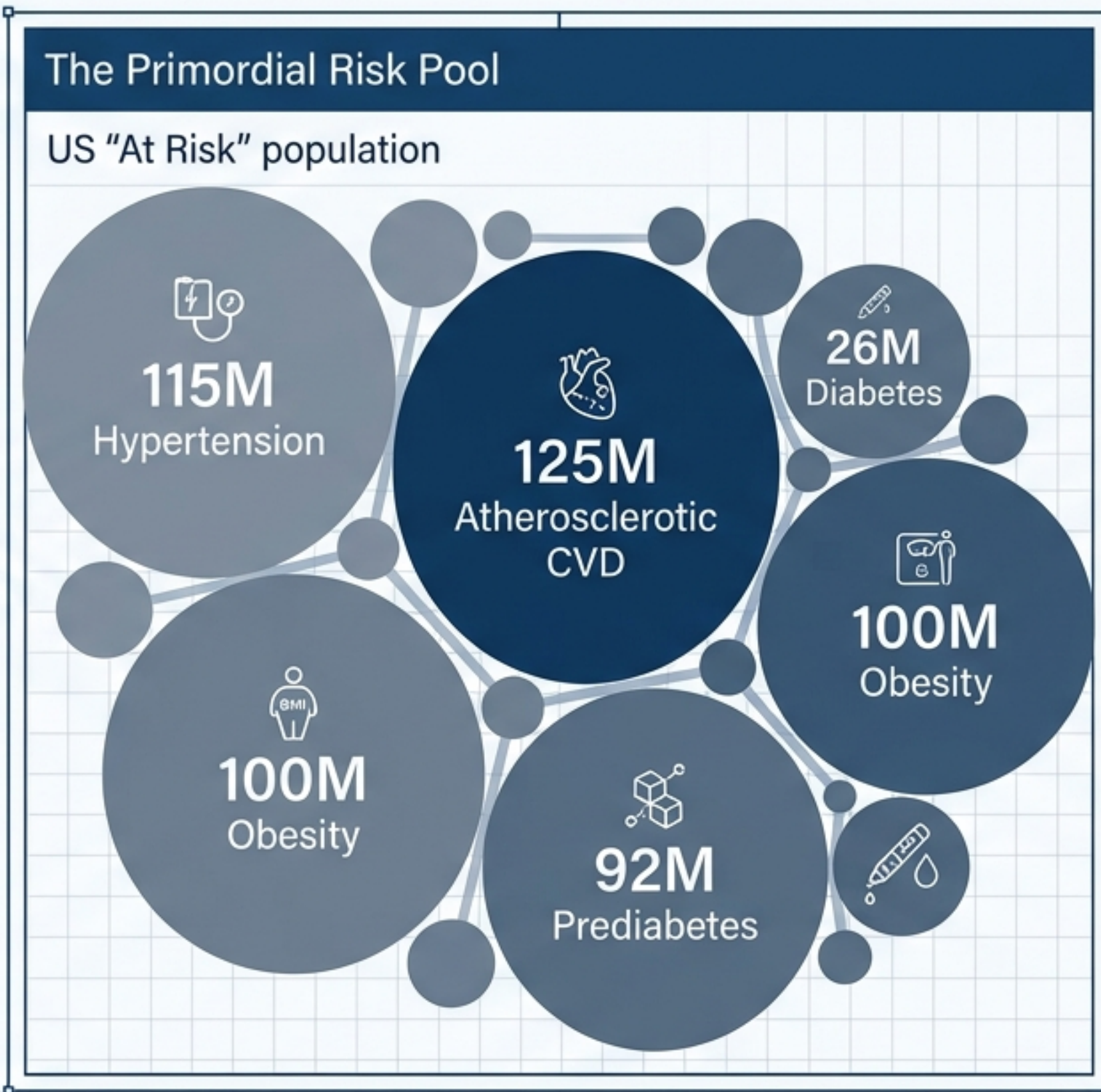
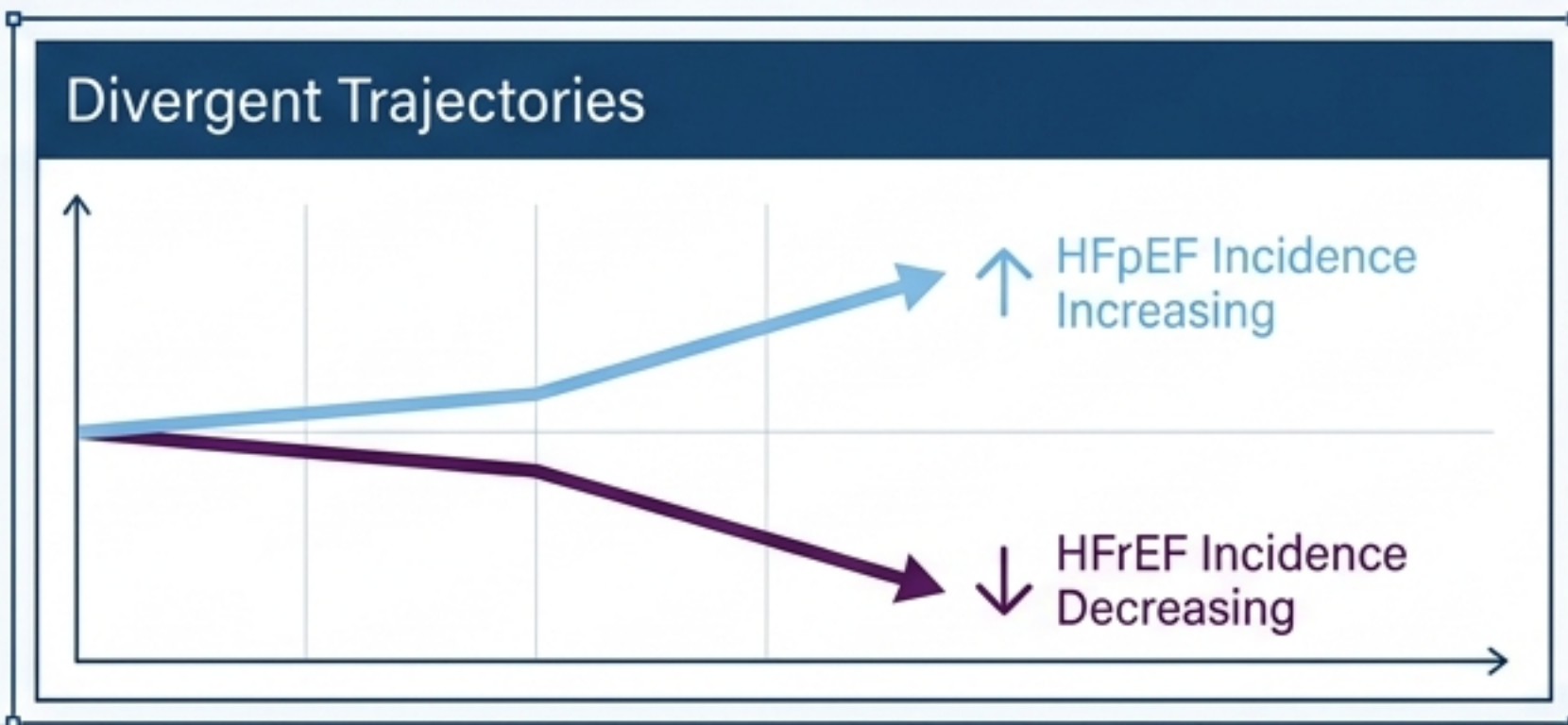
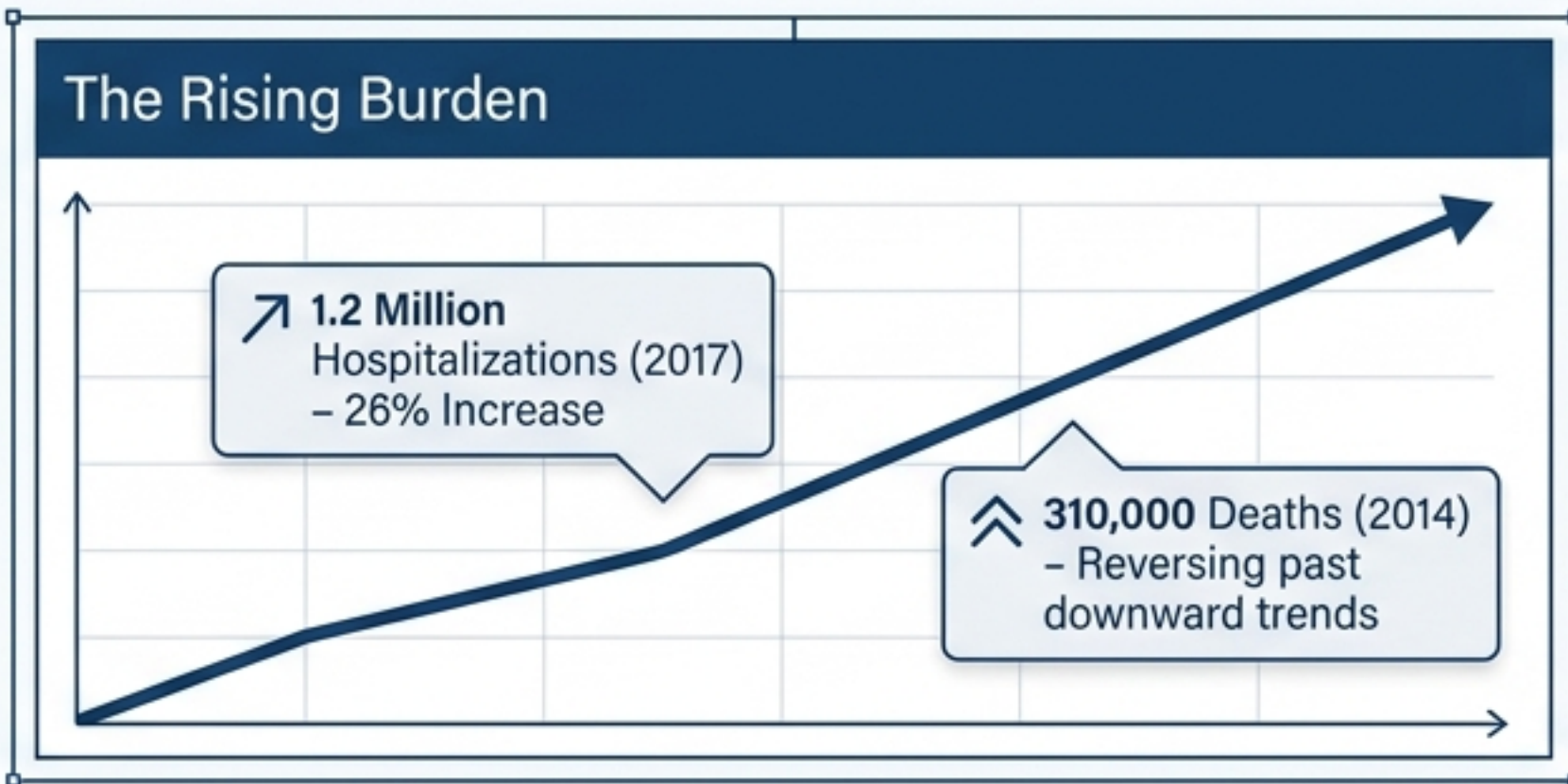
Recommendation Classes

-  Class 1 (Strong)
-  Class 2a (Moderate)
-  Class 2b (Weak)
-  Class 3 (Harm/No Benefit)

LVEF Categories

-  HFrEF
-  HFmrEF
-  HFpEF
-  HFimpEF

Epidemiological Urgency: The Rising Burden of Heart Failure



Executive Summary: Paradigm Shifts in the 2022 Guidelines

Pharmacology: The SGLT2i Era

SGLT2i expansion across the spectrum:

Class 1 for HFrEF

Class 2a for HFmrEF & HFpEF

Classification: The HFimpEF Category

Creation of Heart Failure with Improved EF designation.

For previous HFrEF patients who now have LVEF >40%.

Diagnostics: The Filling Pressure Mandate

Clinical diagnosis of HFmrEF and HFpEF now **STRICTLY** requires **objective evidence of increased LV filling pressures**.

Specialty Etiologies: Amyloidosis Focus

New distinct treatment pathways for cardiac amyloidosis:

Light chain screening

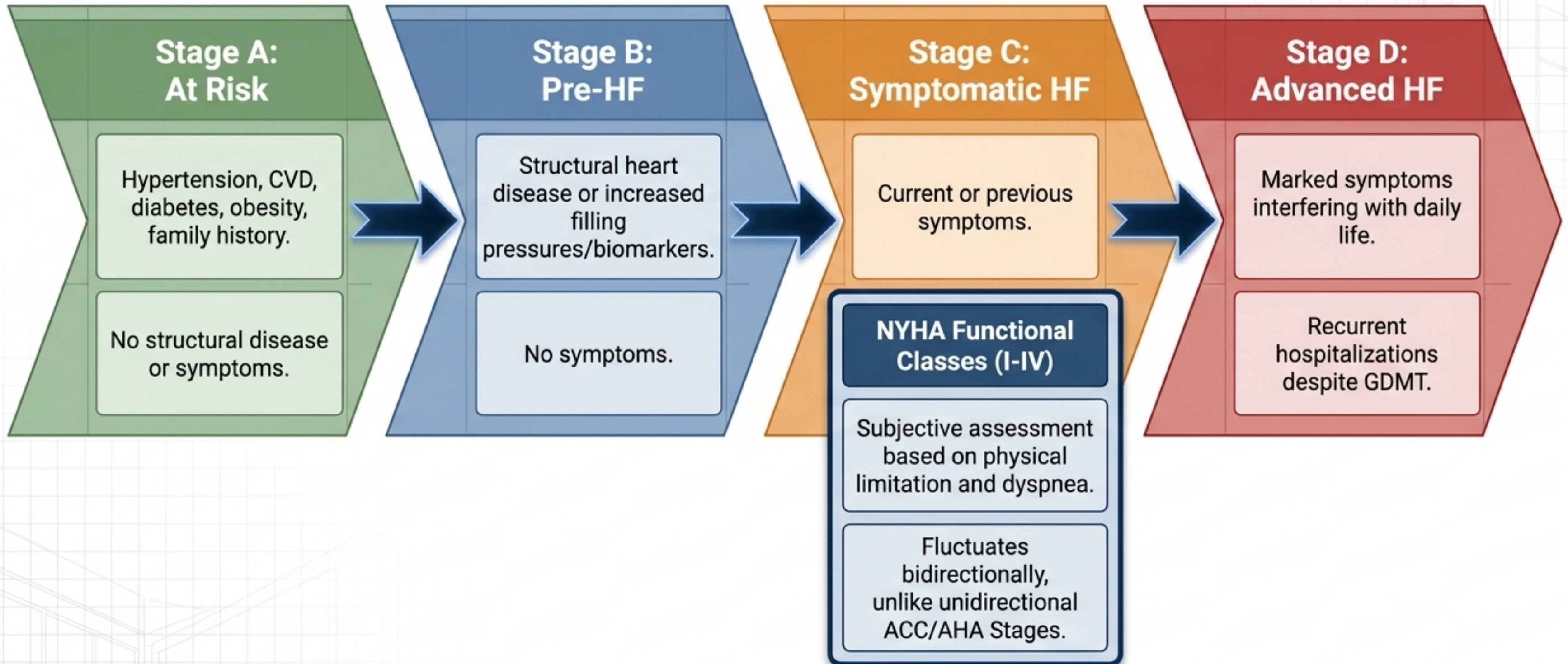
Bone scintigraphy

Tetramer stabilizers

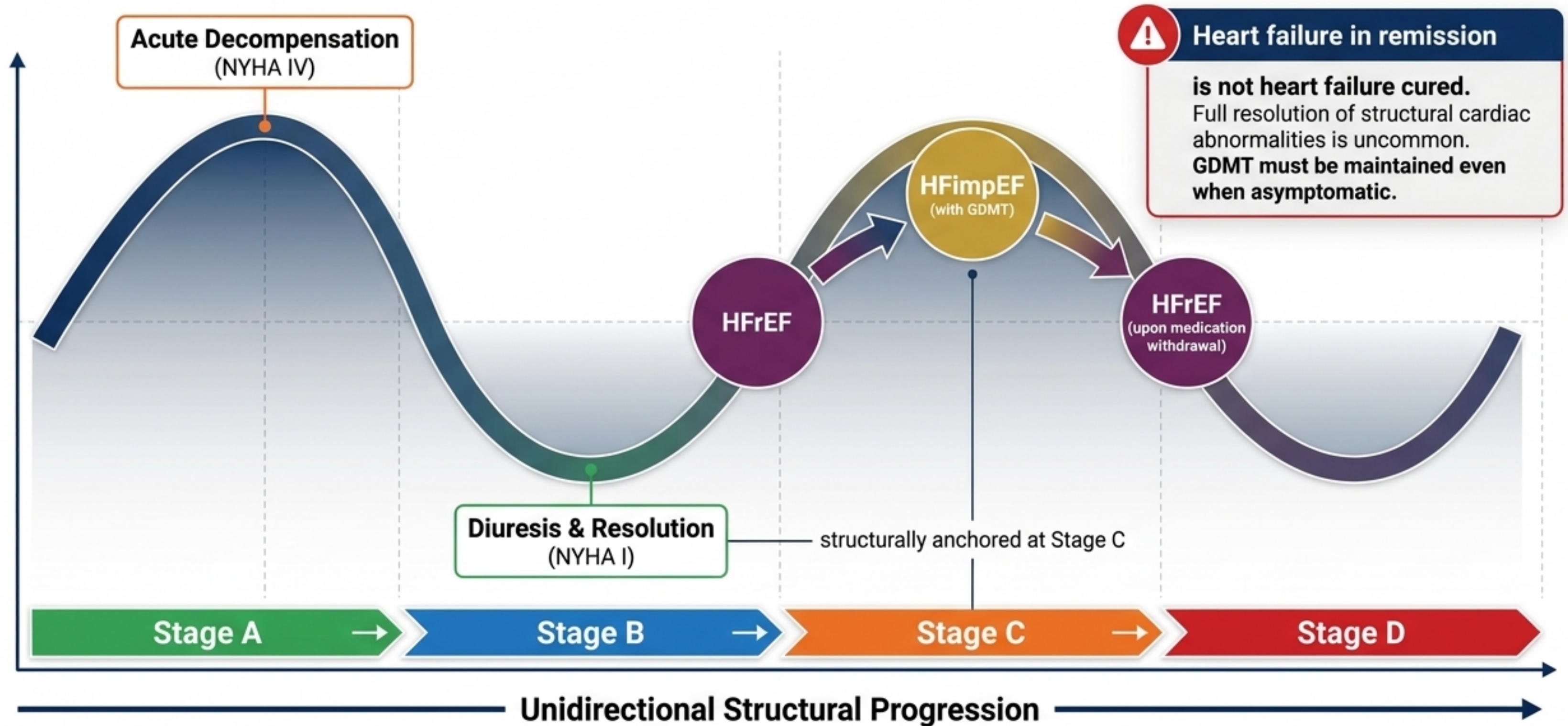
The LVEF Classification Matrix

HFrEF (Reduced)	HFimpEF (Improved)	HFmrEF (Mildly Reduced)	HFpEF (Preserved)
<p>LVEF $\leq 40\%$</p>	<p>Previous LVEF $\leq 40\%$</p> <p>Follow-up measurement $>40\%$</p> <p>Key Note: Must continue HFrEF GDMT.</p>	<p>LVEF 41–49%</p> <p>Requires evidence of spontaneous or provokable increased LV filling pressures.</p>	<p>LVEF $\geq 50\%$</p> <p>Requires evidence of spontaneous or provokable increased LV filling pressures.</p>

Structural Progression and Symptom Severity



The Dynamic Trajectory of Heart Failure



The Diagnostic Baseline Dashboard

Establish Baseline & Function

 12-lead ECG (rhythm, QRS duration)

 Complete Blood Count

 Urinalysis

Assess Comorbidities & Organ Impact


 Serum electrolytes (Na, K, Ca, Mg)


 BUN & Serum creatinine


 Liver function tests

Identify Specific Etiologies

 Fasting lipid profile

 Glucose / HbA1c

 Iron studies
(serum iron, ferritin,
transferrin saturation)

 Thyroid-stimulating
hormone (TSH)

The Physical Exam Mandate

Prioritize the assessment of clinical congestion to guide immediate diuretic titration.

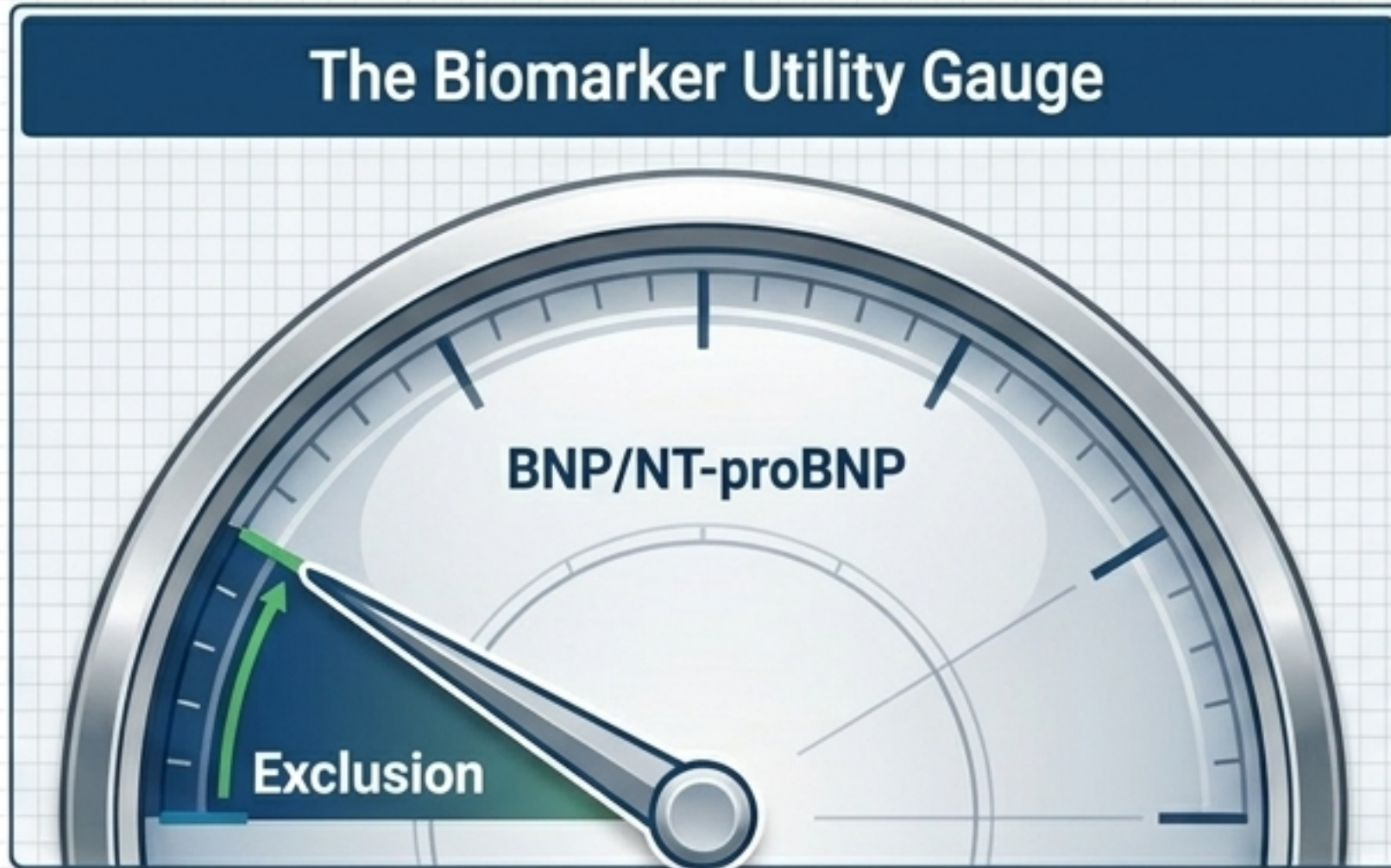
JVD

Orthopnea

Bendopnea

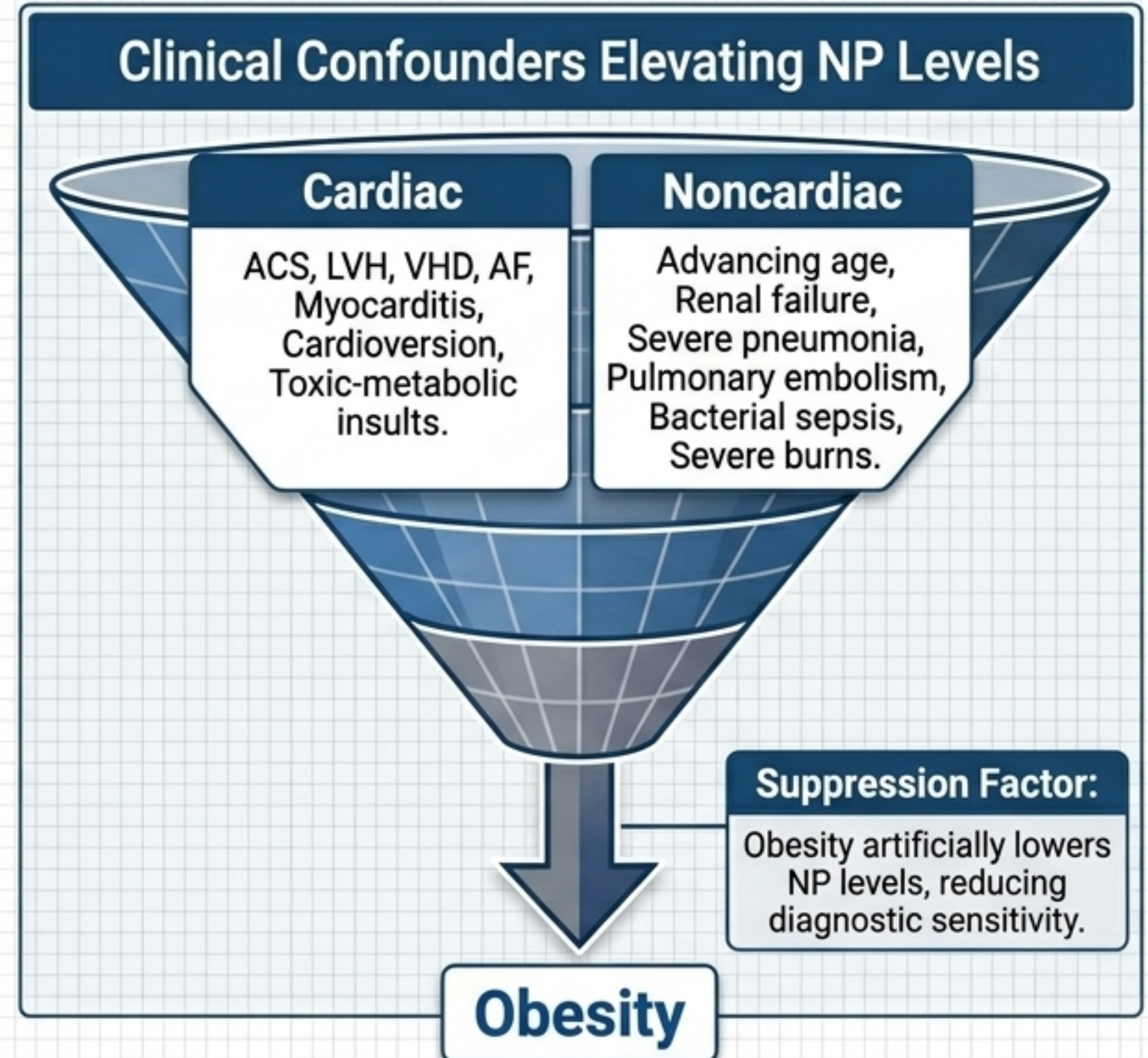
Edema

Natriuretic Peptides: Utility Gauge & Noise Filter

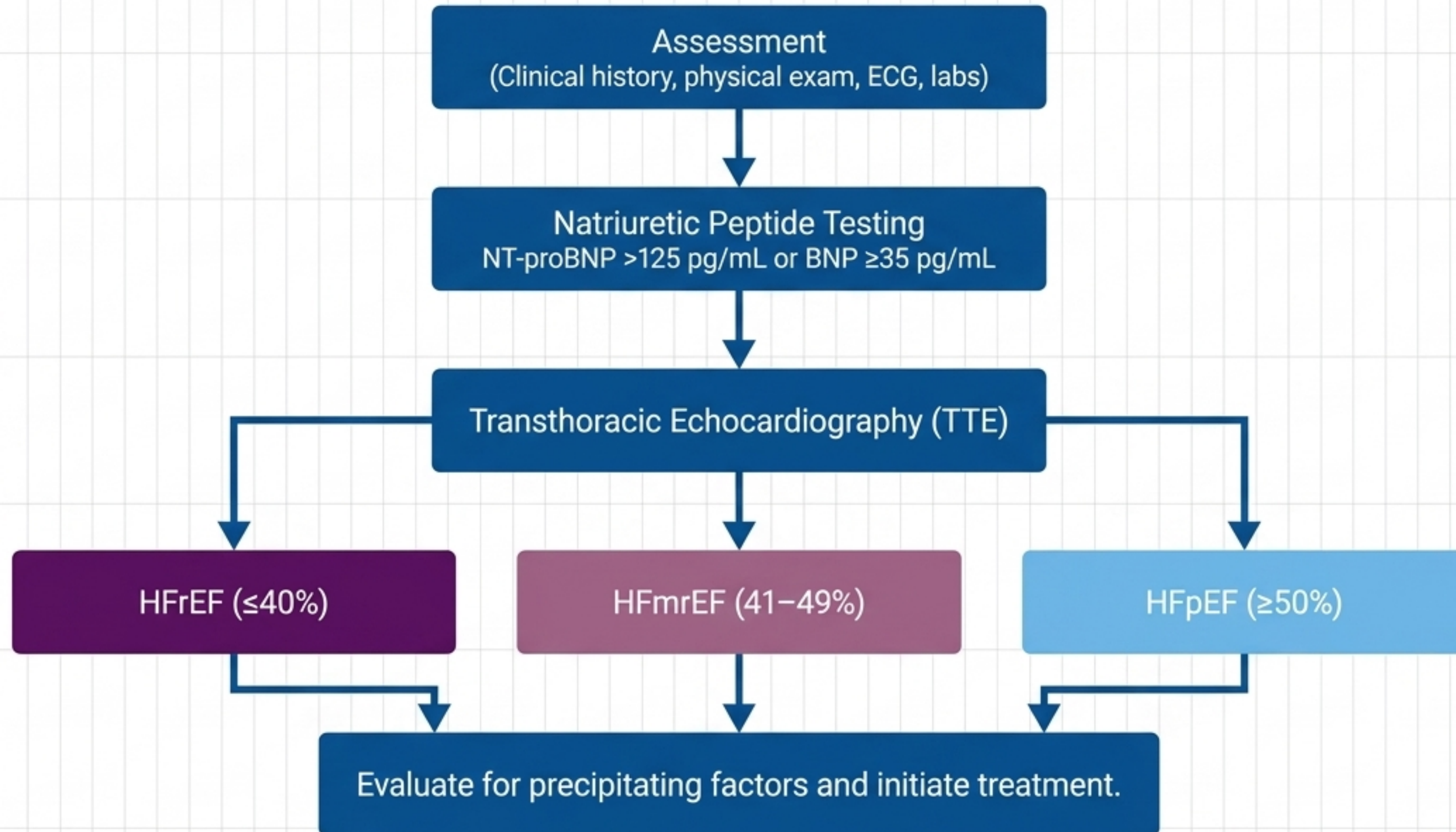


The Biomarker Utility Gauge

High Negative Predictive Value:
Low levels are highly sensitive for ruling out HF as a cause of dyspnea in ambulatory/ED settings.

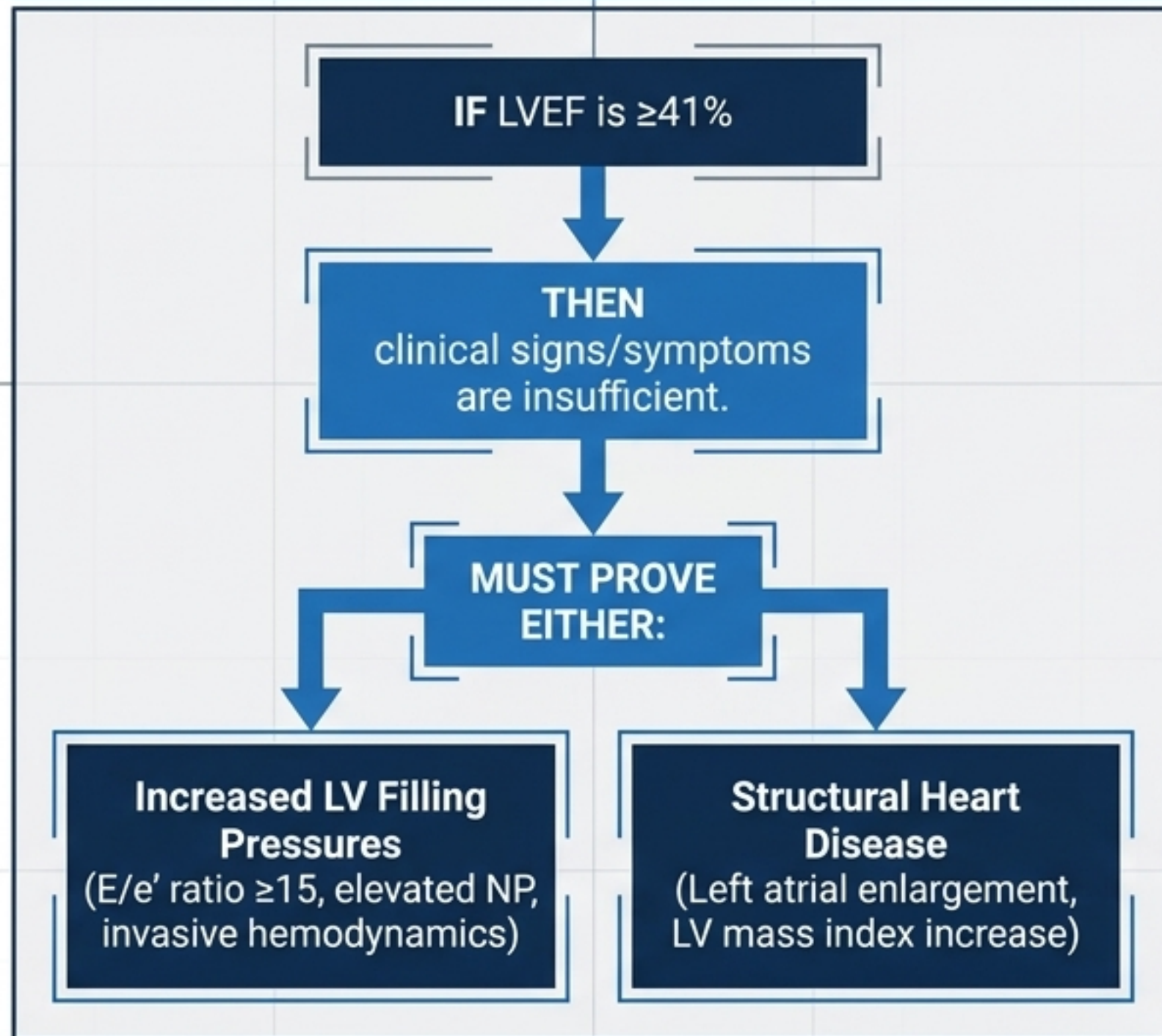


The LVEF Diagnostic Algorithm



Validating HFpEF and HFmrEF: The Objective Evidence Mandate

The Diagnostic Logic Tree



The H2FPEF Scorecard

Heavy (Obesity)	<input type="checkbox"/>
Hypertension (≥ 2 meds)	<input checked="" type="checkbox"/>
Atrial Fibrillation	<input type="checkbox"/>
Pulmonary Hypertension (PASP >35 mmHg)	<input type="checkbox"/>
Elderly (Age >60)	<input type="checkbox"/>
Filling Pressures (E/e' >9)	<input type="checkbox"/>

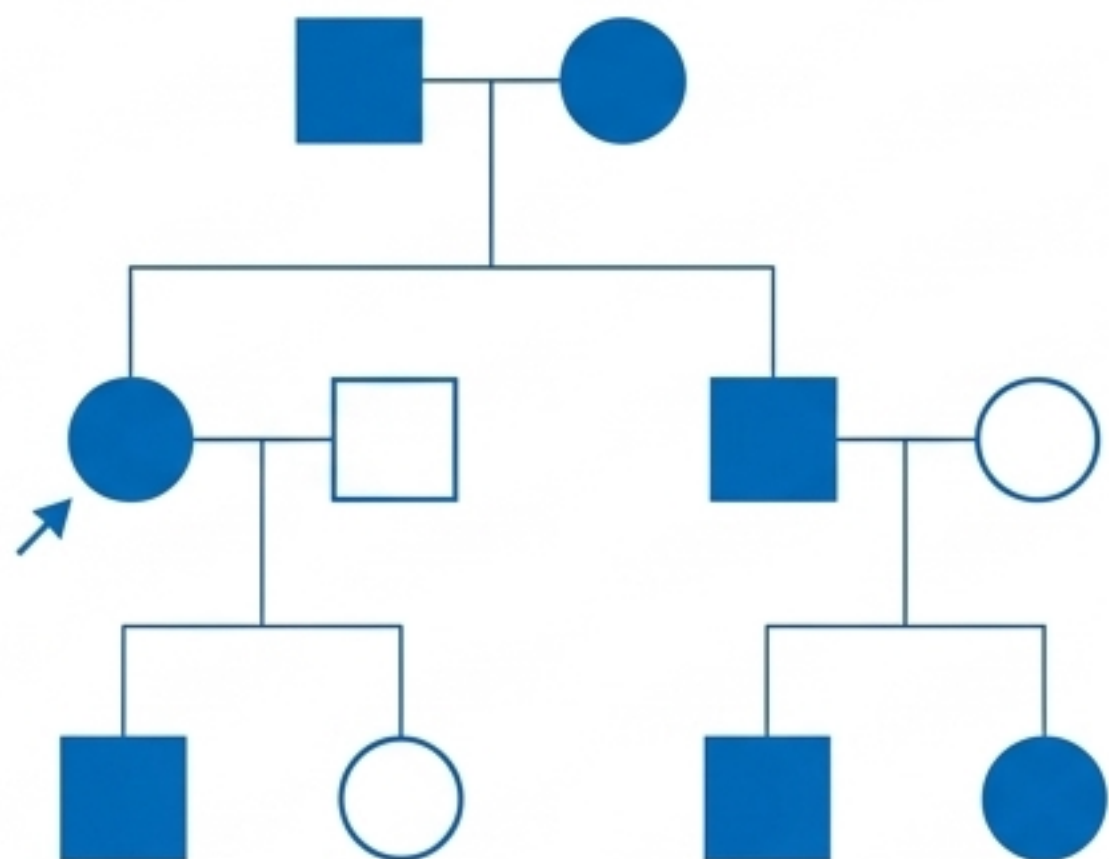
Scores 0-1: Low likelihood	Scores 2-5: Intermediate (requires exercise echo/cath)	Scores 6-9: High likelihood
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Advanced Cardiac Imaging Modalities Matrix

	Utility	Benefits	Drawbacks
Transthoracic Echo (TTE)	First-line baseline assessment.	Widespread availability, no radiation, assesses structure, function, and hemodynamics.	N/A
Cardiac MRI (CMR)	Characterization of myocardium.	Gold standard for volumes/mass, late-gadolinium enhancement identifies fibrosis, scars, infiltrative disease (amyloidosis, sarcoidosis).	Selective use recommended, not routine screening.
Cardiac CT	Ventricular size/function and anatomy.	N/A	Ionizing radiation.
Nuclear/Stress Imaging (SPECT/PET)	Detection of myocardial ischemia.	N/A	Context: STICH trial notes routine viability assessment before revascularization does not improve adverse outcomes.

Non-Ischemic Etiologies: The Genetic Pedigree Concept

The Pedigree



Class 1 Intervention

Genetic screening and counseling recommended for 1st-degree relatives of patients with genetic/inherited cardiomyopathies.

The Red Flag Checklist

Cardiac Phenotypes



Severe LVH or LV noncompaction



Frequent NSVT



Early-onset AF (<65y)



Pacemaker before 65y

Extracardiac Features



Skeletal myopathy (e.g., Duchenne, Becker's)



Congenital deafness or dysmorphic features



Renal failure with neuropathy

Prognostic Evaluation: Function and Risk

Functional Capacity Testing

6-Minute Walk Test

Distance <300m correlates to NYHA III/IV and predicts worse 3-year survival.

CPET (Cardiopulmonary Exercise Testing)

The Gold Standard.

Peak $\dot{V}O_2 \leq 14$ mL/kg/min (or ≤ 12 if on beta-blockers) is the cutoff to evaluate survival benefit for heart transplant/LVAD listing.

Multivariable Risk Scores

MAGGIC Score

Validated for chronic HF across all LVEF categories.

Seattle Heart Failure Model

Validated for chronic HF.

PCP-HF

Predicts incident HF risk for the general population.

The Prevention Matrix: Stage A vs. Stage B

Stage A (At Risk)

Patient Profile

Patients with hypertension, DM, CVD, cardiotoxic exposure, genetic risk.

Goal

Modify risk factors before structural changes occur.

Stage B (Pre-HF)

Patient Profile

Patients with LVEF $\leq 40\%$, recent MI, or nonischemic cardiomyopathy.

Goal

Prevent the syndrome of clinical HF.

Lifestyle modifications (diet, exercise, weight, smoking cessation) must persist continuously through Stage A and B.

Stage A Playbook: Primary Prevention Point-of-Care

Class 1 (Strong) Actions

Blood Pressure Optimization

Optimize control to $<130/80$ mm Hg to prevent symptomatic HF.

Type 2 Diabetes + CVD Risk

Mandates SGLT2i to prevent HF hospitalizations, independent of glucose lowering.

Class 2a (Moderate) Actions

Biomarker Screening

Utilize BNP/NT-proBNP screening (e.g., STOP-HF protocol) in at-risk patients, followed by collaborative care/GDMT optimization to prevent LV dysfunction onset.

Risk Estimation

Use validated multivariable risk scores (like PCP-HF) to estimate incident HF risk.

Stage B Playbook: Pharmacological Arsenal & Prohibitions

Interventions for LVEF $\leq 40\%$

Class 1

ACEi (or ARB if intolerant): Prevents symptomatic HF and reduces mortality.

Class 1

Evidence-Based Beta Blockers: For patients with recent/remote MI or asymptomatic LV dysfunction.

Class 1

Statins: For patients with recent/remote MI or ACS.

Class 1

ICD: For primary prevention of sudden cardiac death if at least 40 days post-MI, LVEF $\leq 30\%$, NYHA I, and survival expectation >1 year.

Contraindications for LVEF $< 50\%$

Class 3 (Harm)

Thiazolidinediones

Increases risk of HF and fluid retention.

Class 3 (Harm)

Nondihydropyridine Calcium Channel Blockers

Negative inotropic effects are harmful.

Advanced Monitoring & Interventions: Value vs. Harm

Remote PA Pressure Monitoring (e.g., CardioMEMS)

Exact Criteria: NYHA class III, HF hospitalization within past year or elevated NP levels, on stable GDMT.

⚠️ Uncertain Value: Based on GUIDE-HF trial outcomes vs CHAMPION trial.

Invasive Hemodynamics

Right Heart Catheterization

Useful **ONLY** in acute HF with persistent symptoms, shock, uncertain fluid status/perfusion, or when requiring vasoactive agents.

Prohibited Routine Use

Routine use of PA catheters in stable HF is **NOT** recommended (ESCAPE trial).

Routine **endomyocardial biopsy** is strictly **harmful** due to perforation risks.