

STAGE A/B FRAMEWORK FROM JAPAN HEART FAILURE SOCIETY (JHFS)

Prevention and Management of Stage A and B Heart Failure

Early, structured intervention in asymptomatic high-risk patients can delay or prevent progression to symptomatic heart failure (HF). This infographic condenses Stage A/B priorities for frontline care teams [1].

1) Which Patients Are at High Risk?

JHFS defines two asymptomatic categories: risk-factor dominant Stage A and remodeling-based Stage B [1].

Stage A: At-Risk (No structural heart disease)

- Essential hypertension
- Arteriosclerotic disease
- Diabetes
- Chronic Kidney Diseases (CKD)
- Clinical obesity (BMI ≥ 25)

Stage B: Pre-HF (Asymptomatic remodeling)

- LVEF < 50% or left ventricular hypertrophy
- Hemodynamically significant valvular disease
- Evidence of prior myocardial infarction
- Atrial fibrillation

2) What Should Be Evaluated?

Proactive evaluation relies on biomarker surveillance to detect subclinical hemodynamic stress, alongside vigilant monitoring for transition to symptomatic HF [1], [2].

Biomarker Monitoring

BNP < 35 pg/mL OR NT-proBNP < 125 pg/mL
Low probability of heart failure.

BNP ≥ 35 pg/mL OR NT-proBNP ≥ 125 pg/mL
Signals transition to Stage B (pre-heart failure).

*** NT-proBNP > 55 pg/mL warrants closer follow-up [2].**

Screening Cadence

JHFS mandates the routine measurement of BNP or NT-proBNP.

Stage A:

AT LEAST

1
time
per year

Stage B:

AT LEAST

2
times
per year

Caveats and Confounding Variables

- Natriuretic peptides may increase with age, inflammation, renal dysfunction, anemia, and atrial fibrillation.
- With ARNI therapy, BNP can rise while NT-proBNP remains interpretable for longitudinal follow-up.
- Substantial obesity may suppress natriuretic peptide concentrations.

Clinical and Physical Surveillance

Ask about symptoms

Fatigue, malaise, exertional dyspnea, nocturnal dyspnea, orthopnea

Check physical signs

Pulmonary rales, S3, jugular venous distention, edema, weight gain > 2 kg/week

Use routine tests

Chest X-ray (cardiomegaly, pleural effusion), 12-lead ECG (Q waves, new AF)

3) How Should One Intervene?

Use aggressive lifestyle optimisation for all, then condition-specific therapies to prevent remodeling and downstream hospitalisation [1], [3-9].

Stage A Treatment Focus

- Control upstream cardiometabolic and renal risk to prevent structural remodeling.
- Prioritize BP, glycemic, CKD, and obesity management with preventive pharmacotherapy.

Stage B Treatment Focus

- Continue Stage A risk control and intensify therapy to prevent symptomatic HF transition.
- Escalate disease-specific treatment and evaluate rhythm/device interventions when indicated.

Global Baseline (all high-risk patients)

- Aerobic exercise and weight management
- Dietary sodium restriction
- Smoking cessation and alcohol moderation

Hypertension

- Office target: < 130/80 mmHg
- Home target: < 125/75 mmHg
- Stage B escalation: diuretics, ACEI, ARB, or ARNI as indicated

Diabetes and Obesity

- Prefer cardiovascular-protective glucose-lowering strategies
- High-priority classes: SGLT2 inhibitors, GLP-1RA, dual GIP/GLP-1 agonists

SELECT: semaglutide reduced MACE (HR 0.80) and CV death or HF hospitalisation (HR 0.82) [4].

SUMMIT: tirzepatide reduced CV death/worsening HF (HR 0.62) and worsening HF events (HR 0.54) [5].

Chronic Kidney Disease

- Foundation: ACEI or ARB plus SGLT2 inhibitor
- Consider nonsteroidal MRA finerenone in eligible diabetic CKD

EMPA-KIDNEY: empagliflozin lowered CKD progression/CV death (HR 0.72) and all-cause hospitalisation (HR 0.86) [6].

FLOW: semaglutide lowered HF events plus CV death by about 27% in diabetic CKD [7].

FIDELITY/FIGARO: finerenone reduced CV outcomes (HR 0.86), kidney outcomes (HR 0.77), and HF hospitalisation (HR 0.71 in FIGARO) [8].

Asymptomatic Reduced EF and AF

- LVEF < 50%: initiate beta-blocker plus ACEI/ARB promptly
- AF/arrhythmias: evaluate catheter ablation, DOACs, and rate control [9]
- Assess ICD/CRT candidacy in reduced EF or electrical dyssynchrony [9]

4) When Should a Patient Be Referred to a Cardiovascular Specialist?

Transition to symptomatic Stage C and any red-flag findings require immediate referral for specialist evaluation and rapid treatment initiation [1], [9].

Biomarker transition to Stage B

If biomarker thresholds for Stage B are met, arrange at least one cardiovascular specialist referral.

Structural or ECG discoveries

Refer for etiology clarification when echo shows LVEF < 50% or valvular disease, or ECG shows new concerning abnormalities.

Device/ablation consideration

Refer early when AF burden, dyssynchrony, or reduced EF suggests possible catheter ablation, ICD, or CRT benefit [9].

Urgent Action Required

Red Flags (any)

- Unexplained fatigue
- Nocturnal dyspnea
- Pulmonary congestion
- Weight gain > 2 kg/week
- Orthopnea
- S3 gallop
- Rapid edema



Probable Symptomatic HF (Stage C)



Expedited Cardiology Review

ACEI: Angiotensin-Converting Enzyme Inhibitor; AF: Atrial Fibrillation; ARB: Angiotensin II Receptor Blocker; ARNI: Angiotensin Receptor–Neprilysin Inhibitor; BMI: Body Mass Index; BNP: B-Type Natriuretic Peptide; BP: Blood Pressure; CKD: Chronic Kidney Disease; CRT: Cardiac Resynchronization Therapy; CV: Cardiovascular; DOACs: Direct Oral Anticoagulants; EF: Ejection Fraction; GIP/GLP-1: Glucose-Dependent Insulinotropic Polypeptide / Glucagon-Like Peptide-1; GLP-1RA: Glucagon-Like Peptide-1 Receptor Agonist; HF: Heart Failure; HR: Hazard Ratio; ICD: Implantable Cardioverter-Defibrillator; JHFS: Japanese Heart Failure Society; LVEF: Left Ventricular Ejection Fraction; MACE: Major Adverse Cardiovascular Events; MRA: Mineralocorticoid Receptor Antagonist; SBP: Systolic Blood Pressure; SGLT2: Sodium–Glucose Cotransporter 2; T2D: Type 2 Diabetes.

References

- [1] Japanese Heart Failure Society. Scientific Statement on Heart Failure Prevention: Clinical Flowchart in Stage A/B. 2025.
- [2] Miyazaki S, Inaba S, Higashi H, et al. Validation of N-Terminal Pro B-Type Natriuretic Peptide Threshold for Early Detection of Pre-Heart Failure in a General Japanese Population - Toon Health Study. Circ J. 2025;89(7):966-972. doi:10.1253/circj.CJ-24-0774
- [3] Bi Y, Li M, Liu Y, et al. Intensive Blood-Pressure Control in Patients with Type 2 Diabetes. N Engl J Med. 2025;392(12):1155-1167. doi:10.1056/NEJMoa2412006
- [4] Lincoff AM, Brown-Frandsen K, Colhoun HM, et al. Semaglutide and Cardiovascular Outcomes in Obesity without Diabetes. N Engl J Med. 2023;389(24):2221-2232. doi:10.1056/NEJMoa2307563
- [5] Packer M, Zile MR, Kramer CM, et al. Tirzepatide for Heart Failure with Preserved Ejection Fraction and Obesity. N Engl J Med. 2025;392(5):427-437. doi:10.1056/NEJMoa2410027
- [6] The EMPA-KIDNEY Collaborative Group, Herrington WG, Staplin N, et al. Empagliflozin in Patients with Chronic Kidney Disease. N Engl J Med. 2023;388(2):117-127. doi:10.1056/NEJMoa2204233
- [7] Pringle RE, Tuttle KR, Rossing P, et al. Effects of Semaglutide on Heart Failure Outcomes in Diabetes and Chronic Kidney Disease in the FLOW Trial. J Am Coll Cardiol. 2024;84(17):1615-1628. doi:10.1016/j.jacc.2024.08.004
- [8] Agarwal R, Filippatos G, Pitt B, et al. Cardiovascular and kidney outcomes with finerenone in patients with type 2 diabetes and chronic kidney disease: the FIDELITY pooled analysis. Eur Heart J. 2022;43(6):474-484. doi:10.1093/eurheartj/ehab777
- [9] Iwasaki YK, Noda T, Akao M, et al. CCS/JCS/HS 2024 Guideline Focused Update on Management of Cardiac Arrhythmias. J Arrhythm. 2025;41(3):eT0033. Published 2025 Jun 16. doi:10.1002/joa3.70033