Universal Heart Failure Definition Issued by Global Societies

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Heart failure remains a leading cause of hospitalisation and mortality worldwide, a complex syndrome with a historically fragmented diagnostic landscape. Clinicians and researchers have long grappled with inconsistent definitions, hindering epidemiological studies, clinical trial comparability, and ultimately, patient care. The lack of a unified framework has meant that a patient diagnosed with heart failure in one region might not meet the criteria in another, creating significant challenges for global health initiatives. Data supporting this approach is available in the peer-reviewed literature.

KEY TAKEAWAYS

- The Pivot: Four major cardiology societies now endorse a universal definition of heart failure, standardising diagnostic criteria.
- The Data: The new definition categorises heart failure into four stages (A, B, C, D) and four ejection fraction groups (HFrEF, HFmrEF, HFpEF, HFimpEF).
- The Action: Clinicians should adopt the new staging and ejection fraction classifications to ensure consistent diagnosis and facilitate research.

The American Heart Association (AHA), the Heart Failure Society of America (HFSA), the European Society of Cardiology (ESC), and the World Heart Federation (WHF) recently collaborated to issue a universal definition and classification of heart failure. This consensus document, published concurrently in multiple journals including the Journal of Cardiac Failure and the European Heart Journal, aims to provide a consistent framework for diagnosis, research, and public health initiatives globally. The previous definitions, while robust in their respective regions, often led to discrepancies in patient populations enrolled in trials and in reported prevalence rates, making cross-study comparisons difficult.1

The new definition maintains the core understanding of heart failure as a clinical syndrome with symptoms and signs caused by a structural and/or functional cardiac abnormality, leading to elevated intracardiac pressures and/or inadequate cardiac output. But it introduces a refined staging system and a more granular classification based on left ventricular ejection fraction (LVEF). This move acknowledges the continuum of the disease and the varying pathophysiological mechanisms at play, which often dictate treatment strategies.1

Refining the Diagnosis: Stages and Ejection Fractions

The updated framework retains the established four stages of heart failure (A, B, C, D), but with clarified criteria. Stage A identifies patients at high risk for heart failure but without structural heart disease or symptoms, such as those with

hypertension, diabetes, or obesity. Stage B encompasses patients with structural heart disease or elevated natriuretic peptides but no current or prior symptoms of heart failure. This stage is critical for identifying individuals who could benefit from early interventions to prevent progression to symptomatic disease.1

Stage C is defined by current or prior symptoms of heart failure, along with structural heart disease, elevated natriuretic peptides, or objective evidence of abnormal cardiac function. This is the traditional symptomatic heart failure stage where most clinical trials focus. Stage D represents advanced heart failure, characterised by severe symptoms that interfere with daily life, recurrent hospitalisations, and refractory disease despite guideline-directed medical therapy. This stage often necessitates advanced therapies like mechanical circulatory support or transplantation.1

Beyond staging, the document refines the classification of heart failure based on LVEF into four distinct categories. This is a significant update from previous classifications that primarily focused on HFrEF (heart failure with reduced ejection fraction) and HFpEF (heart failure with preserved ejection fraction). The new categories are: HFrEF (LVEF ≤40%), HFimpEF (heart failure with improved ejection fraction, defined as a baseline LVEF ≤40% with a >10-point increase and a second measurement >40%), HFmrEF (heart failure with mildly reduced ejection fraction, LVEF 41-49%), and HFpEF (heart failure with preserved ejection fraction, LVEF ≥50%).1

The introduction of HFimpEF is particularly noteworthy. It acknowledges a growing body of evidence demonstrating that a subset of patients with HFrEF can experience significant improvement in LVEF with appropriate therapy. Recognising this group allows for tailored management strategies, as these patients may still be at risk for relapse and require continued guideline-directed medical therapy. The HFmrEF category, previously a grey area, now has a clearer definition, which should facilitate more targeted research and treatment recommendations for this intermediate group.1

The diagnostic criteria for symptomatic heart failure (Stages C and D) require at least one symptom and one sign of heart failure, along with objective evidence of cardiac dysfunction. This evidence can include elevated natriuretic peptides (BNP >35 pg/mL or NT-proBNP >125 pg/mL), structural heart disease (e.g., left ventricular hypertrophy, chamber dilation), or diastolic dysfunction. The specific thresholds for natriuretic peptides are consistent with current clinical practice and reflect their established role as diagnostic and prognostic biomarkers.1

The societies emphasised that the diagnosis of heart failure is a clinical one, requiring integration of symptoms, signs, and objective evidence. No single test is sufficient. This holistic approach is crucial, particularly in patients with HFpEF, where symptoms can be non-specific and objective evidence of dysfunction may require advanced imaging or invasive haemodynamic assessment. The document provides detailed algorithms for diagnosis, guiding clinicians through the necessary steps to confirm heart failure and classify it appropriately.1

One of the primary motivations for this universal definition is to improve the comparability of clinical trial results. Historically, variations in diagnostic criteria across studies have made it challenging to synthesise evidence and translate findings into global guidelines. A unified definition means that patient populations enrolled in future trials will be more consistent, allowing for clearer interpretation of treatment effects and more robust meta-analyses. This standardisation is particularly important for multinational trials, which are increasingly common in cardiovascular research.1

The document also addresses the importance of aetiology in heart failure management. While the definition focuses on the syndrome itself, it underscores that identifying and treating the underlying cause (e.g., ischaemic heart disease, valvular disease, hypertension) is paramount. This emphasis reinforces the comprehensive approach required for effective heart failure care, moving beyond symptomatic relief to address the root pathology. The guidelines provide a framework for

considering common and less common causes, encouraging a thorough diagnostic workup.1

Still, the implementation of this universal definition will not be without its challenges. Resource-limited settings may struggle with access to the full suite of diagnostic tools, such as advanced echocardiography or natriuretic peptide testing, which are integral to the new criteria. The document acknowledges this disparity, suggesting that clinical judgment and available resources should guide the diagnostic process where advanced tools are not feasible. However, this flexibility could reintroduce some of the variability the definition aims to eliminate.1

Another potential limitation lies in the dynamic nature of heart failure. A patient's LVEF can change over time, particularly with treatment, necessitating re-evaluation and reclassification. While the HFimpEF category addresses one aspect of this, the continuous monitoring and adjustment required may add complexity to clinical workflows. The document provides guidance on when and how to re-evaluate LVEF, but practical application in busy clinics will require careful consideration.1

The universal definition represents a significant step forward in standardising the language of heart failure. By providing clear, globally applicable criteria for staging and LVEF classification, it aims to foster greater consistency in clinical practice and research. This consistency is essential for advancing our understanding of heart failure, developing more effective therapies, and ultimately improving outcomes for patients worldwide. The collaborative effort by four major societies lends considerable weight to this new framework, pushing for its widespread adoption.1

Expanding on definitions and diagnostic criteria for conditions like heart failure, further clinical insights are available within the definitive Oxford Handbook of Cardiology.

CLINICAL IMPLICATIONS

The new universal definition of heart failure offers a much-needed standardisation, but its real impact hinges on consistent adoption. For clinicians, the refined LVEF categories, particularly HFimpEF, demand a more dynamic approach to patient classification and ongoing management. This means regular re-evaluation of ejection fraction, not just at diagnosis, to ensure patients receive appropriate, guideline-directed therapy even if their LVEF improves.

The emphasis on early staging (Stages A and B) underscores the critical role of primary care and preventative cardiology. Identifying high-risk individuals before symptomatic heart failure develops presents a clear opportunity for early intervention with established therapies, potentially delaying or preventing disease progression. This shifts the focus from managing established disease to proactive risk reduction, requiring closer collaboration between specialists and general practitioners.

For the pharmaceutical industry, the clearer definitions should streamline clinical trial design and patient recruitment, particularly for the HFmrEF and HFimpEF populations, which have historically been less well-defined. This could accelerate the development of targeted therapies for these specific subgroups, where evidence-based treatments are still evolving. However, the challenge remains in demonstrating meaningful clinical benefits within these more narrowly defined cohorts.

Ultimately, the success of this universal definition will be measured by its ability to improve patient outcomes. While a unified language is foundational, it must translate into more consistent diagnosis, better-tailored treatment, and a reduction in the global burden of heart failure. The next step is to see how quickly and

> thoroughly these new classifications are integrated into national and international clinical guidelines, driving real-world practice changes.

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