

2021 Essential Messages from ESC Guidelines

Clinical Practice
Guidelines Committee

Heart Failure

Guidelines for the diagnosis and
treatment of acute and chronic
heart failure



ESC

European Society
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Essential Messages

2021 Essential Messages from the ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure*

Developed by the Task Force on the diagnosis and treatment of acute and chronic heart failure of the European Society of Cardiology (ESC)

With the special contribution of the Heart Failure Association (HFA) of the ESC

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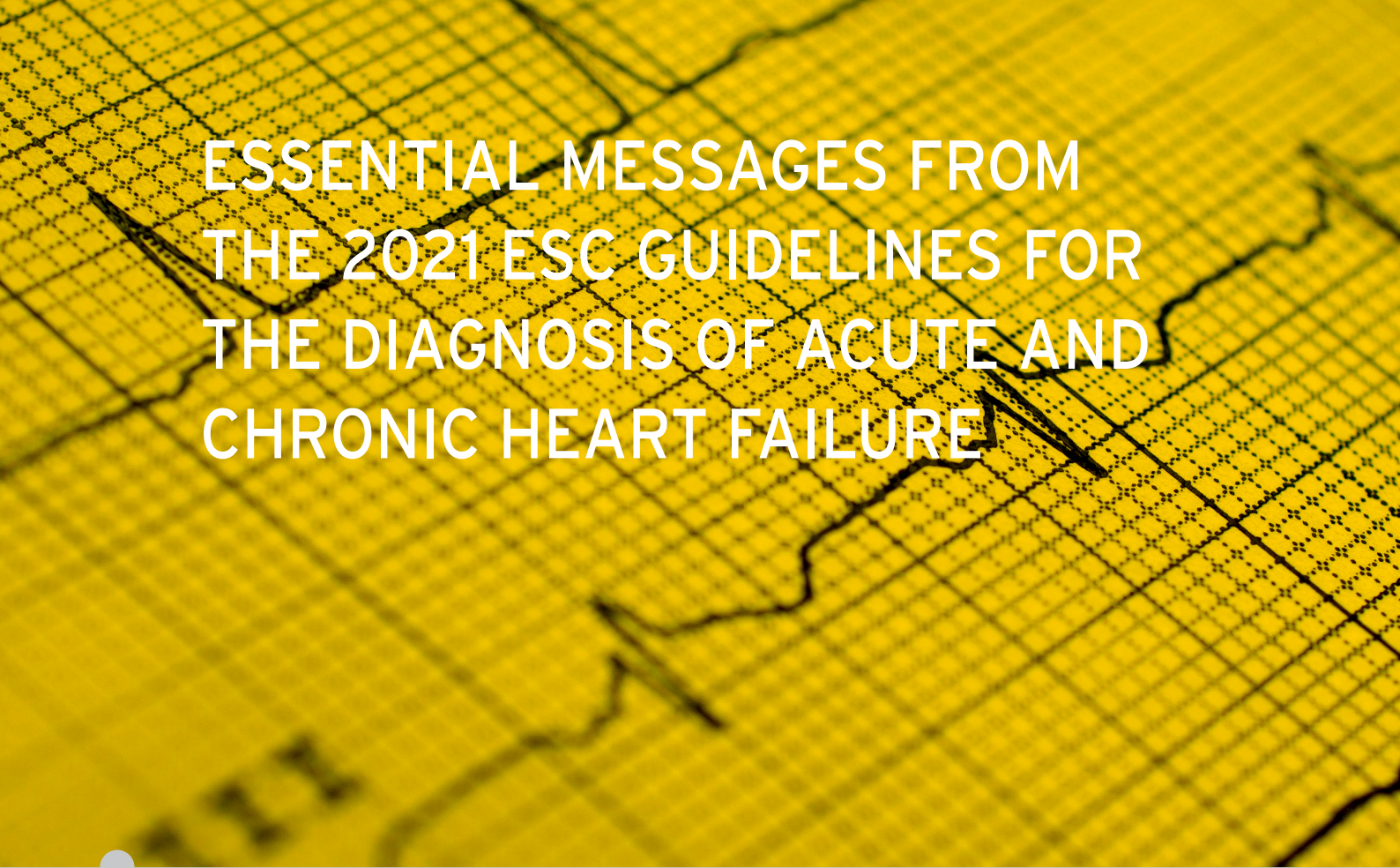
Associations: Association for Acute Cardiovascular Care (ACVC), Association of Cardiovascular Nursing & Allied Professions (ACNAP), European Association of Cardiovascular Imaging (EACVI), European Association of Preventive Cardiology (EAPC), European Association of Percutaneous Cardiovascular Interventions (EAPCI), European Heart Rhythm Association (EHRA), Heart Failure Association (HFA).

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Patient Forum

*Adapted from the "2021 ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure" of the European Society of Cardiology (European Heart Journal; 2021 - doi: 10.1093/eurheartj/ehab368).

The top half of the page features a yellow background with a black grid pattern, overlaid with a black ECG (heart rate) line. The text is centered in white, bold, uppercase letters.

ESSENTIAL MESSAGES FROM THE 2021 ESC GUIDELINES FOR THE DIAGNOSIS OF ACUTE AND CHRONIC HEART FAILURE

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Key messages

ESC Task Force has selected 20 simple rules to guide the diagnosis and treatment of acute and chronic heart failure:

1. Patients with HF are classified based on their LVEF. Those with a LVEF between 41% and 49% are defined as 'mildly reduced LVEF' (HFmrEF).
2. Measurement of NPs and echocardiography have key roles in the diagnosis of HF.
3. ACE-I or ARNI, beta-blockers, MRA, and SGLT2 inhibitors are recommended as cornerstone therapies for patients with HFrEF.
4. ICDs are recommended in selected patients with HFrEF of an ischaemic aetiology and should be considered in those with a non-ischaemic aetiology.
5. CRT-P/D is recommended in those patients with HFrEF, in sinus rhythm, with a LBBB \geq 150 ms and should be considered in those with a LBBB \geq 130-149 ms or non-LBBB \geq 150 ms.
6. Advanced HF strategies (heart transplantation/MCS) may be appropriate in selected patients.
7. ACE-I/ARNI, beta-blockers, and MRA may be considered in patients with HFmrEF.
8. The diagnosis of HFpEF requires objective evidence of cardiac structural, or functional abnormalities as well as elevated plasma NP concentrations consistent with the presence of LV diastolic dysfunction and raised LV filling pressures. A diastolic stress test is recommended when these markers are equivocal.
9. To date, no treatment has been shown to reduce mortality and morbidity in patients with HFpEF.
10. It is recommended that all patients with HF be enrolled in a multidisciplinary HF-MP.
11. Exercise is recommended for all patients who are able, to improve exercise capacity and QOL, and reduce HF hospitalization.
12. Patients with advanced HF refractory to medical/device therapy and who do not have absolute contraindications should be referred for consideration of heart transplantation. MCS should also be considered as BTT orDT in selected patients.
13. Four major clinical presentations of acute HF may occur: ADHF, acute pulmonary oedema, RV failure, and cardiogenic shock.

Key messages

14. Treatment of acute HF is based on diuretics for congestion, inotropes, and short-term MCS for peripheral hypoperfusion.
15. Patients hospitalized for HF should be carefully evaluated to exclude persistent signs of congestion. Oral treatment should be optimized before discharge.
16. In addition to oral anticoagulation, a strategy of rhythm control including catheter ablation should be considered in patients whose symptoms and/or cardiac dysfunction are associated with AF.
17. SAVR or TAVI, as advised by the Heart Team, are recommended.
18. Patients with isolated significant SMR and COAPT criteria should be considered for percutaneous edge-to-edge repair, whereas those with SMR and CAD, who need revascularization, should be considered for surgery.
19. It is recommended that patients with type II diabetes are treated with SGLT2 inhibitors.
20. Patients should be periodically screened for anaemia and iron deficiency and i.v. iron supplementation with ferric carboxymaltose should be considered in symptomatic patients with LVEF < 45% and iron deficiency, and in patients recently hospitalized for HF and with LVEF ≤ 50% and iron deficiency.

Main gaps in evidence and areas for future research

Major advances in the diagnosis and treatment of patients with HF have occurred over recent years. Strong evidence for new treatment options have been given by recent RCTs and HF management may undergo major changes in the next years. New discoveries, however, pose new challenges and many areas with lack of evidence still remain. The following is a short list of selected, common issues that deserve to be addressed in future clinical research.

1. Definition and epidemiology

- i. Further research into the underlying characteristics, pathophysiology, and diagnosis of HFmrEF and HFpEF
- ii. Consensus about normal values/ranges of EF
- iii. Better phenotyping of HFpEF
- iv. More information on the incidence and prevalence of 'recovered LV' systolic function

2. Diagnosis

- i. Definitive studies on the role of biomarkers, focusing on their additive value in the diagnosis of HF
- ii. More randomized studies on screening for HF in asymptomatic subjects that may translate into improved outcomes
- iii. Studies on biomarkers showing the impact on outcome of their measurements for the identification of subjects at risk of developing HF as well as to guide treatment in patients with HF
- iv. Validated diagnostic protocols for the diagnosis of HFmrEF and HFpEF

3. Pharmacotherapy of CHF

- i. Pragmatic studies on the order of adding disease-modifying drugs for HFrEF
- ii. Specific therapies for HFmrEF and HFpEF and, likely, their different phenotypes
- iii. More data and prospective clinical trials of HFrEF therapies in patients with eGFR < 30 mL/min/1.73 m²
- iv. Further evidence from prospective RCTs for the treatment of specific HF phenotypes: myocarditis, cardiotoxicity, inherited CMPs, PPCM, amyloidosis
- v. Management strategies and therapies for 'recovered LV' systolic function
- vi. More evidence on the effects of fluid restriction, dietary salt restriction, and nutrition

Gaps in evidence

4. Devices and interventions

- i. Indications for ICDs in specific subgroups of HFmrEF/HFpEF and optimal selection of ICD candidates in HFrEF, including patients with ischaemic and non-ischaemic cardiomyopathy
- ii. More research on CRT efficacy in AF
- iii. Further prospective randomized studies showing the impact on outcomes of AF ablation strategies compared to OMT in HF patients
- iv. Further research on the percutaneous treatment of valve heart disease and its impact on patients' outcomes and QOL
- v. Larger RCTs on CCM and baroreceptor stimulation in HFrEFManagement strategies and therapies for 'recovered LV' systolic function
- vi. More evidence on the effects of fluid restriction, dietary salt restriction, and nutrition

5. Disease management

- i. The role of remote monitoring strategies in HF in the post COVID-19 era
- ii. Studies on optimal models for follow-up of stable HF patients
- iii. Studies to determine specific options for palliative care

6. Advanced HF

- i. Better definition of risk profiles according to INTERMACS and other classifications
- ii. RCTs to establish the effects on outcomes of long-term MCS in hospitalized patients as well as in ambulatory outpatients (for instance INTERMACS 4-6 profiles)
- iii. Advances in long-term MCS, including strategies to reduce the risk of bleeding, thromboembolic events, and infection
- iv. Advances in medical treatment for themany patientswho cannot undergo MCS or heart transplantation including development of treatment strategies, novel inotropes or myotropes for patients with advanced HF

7. AHF

- i. Better definition and classification of patient phenotypes to facilitate improved treatment
- ii. Evidence-based use of imaging techniques and biomarkers that have an impact on patients' clinical course
- iii. Development of better strategies for congestion relief, including monitoring of diuretic administration, and/or to improve organ perfusion
- iv. Identification of treatments with an impact on post-discharge outcomes
- v. New devices for short-term MCS
- vi. Definition of evidence-based treatment options and therapeutic algorithms for patients with cardiogenic shock

Gaps in evidence

8. CV comorbidities

- i. RCTs showing best strategies for the treatment of ventricular arrhythmias
- ii. RCTs to establish the role of coronary revascularization procedures in different patient subsets
- iii. RCTs to establish the impact on patients' outcomes and/or QOL of percutaneous treatment of mitral or tricuspid valve disease in patients with HF treatment

9. Non-CV comorbidities

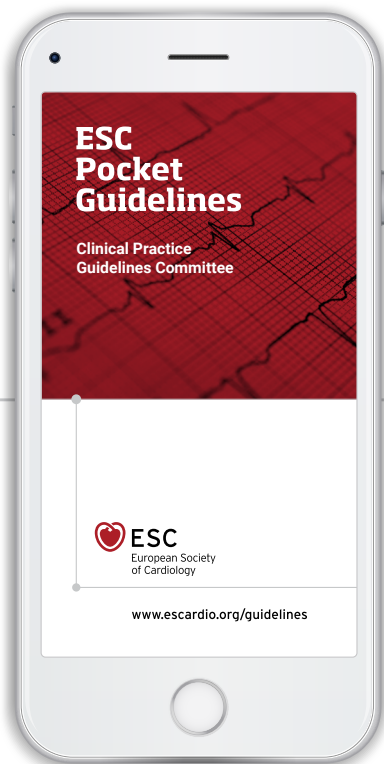
- i. RCTs addressing cachexia and/or sarcopenia and/or frailty and showing the impact of treatment on QOL and/or outcome
- ii. RCTs of medical therapies or devices in patients with severe CKD and HF
- iii. RCTs showing the effects on outcomes of medical treatment of electrolyte abnormalities
- iv. RCTs showing the effects on outcomes of treatment of CSA
- v. Prospective studies showing the impact on outcomes and/or QOL of early diagnosis, better prevention and treatment of cardiotoxicity of cancer therapies
- vi. Better treatment of infections and prevention of cardiac injury with infection

10. Special conditions

- i. RCTs of treatment for PPCM
- ii. Better phenotyping of CMPs through genetic testing, biomarkers and imaging modalities, and tailoring of therapy
- iii. RCTs of treatment of different types of myocarditis, including immunosuppressive therapies
- iv. RCTs of new treatments of different forms of cardiac amyloid
- v. Better definition and treatment of LA myopathy

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The following material was adapted from the ESC Guidelines for the diagnosis of acute and chronic heart failure (European Heart Journal 2021; doi/10.1093/eurheartj/ehab368).

Post-publication corrections and updates are available at: www.escardio.org/guidelines

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