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Actualización 2023 ESC GPC Insuficiencia Cardíaca (2021)

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2023 Focused Update of the 2021 ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure

**Developed by the task force for 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**

Introduction

- Since the publication of the 2021 ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure (HF) there have been several randomized controlled trials that should change patient management ahead of the next scheduled full guideline.
- The TF considered major RCTs and meta-analyses published between 31st March 2021 and 31st March 2023
 - Results leading to new or changed Class I/IIa recommendations were selected for inclusion in Recommendation Tables
 - ≥75% of TF agreement to include a trial
 - Trials that would have an impact upon recommendations in other ESC Guidelines under preparation were not been included to avoid discordance. (REVIVED-BCIS2)
- More than 75% of the TF had to agree for the COR/LOE to be ratified
 - Members with DOI on topics were asked to abstain from voting.
 - In assigning recommendations, as in the 2021 ESC Guidelines, the TF focused on the primary endpoints of trials.
- New recommendations are additive to, and changed recommendations substitute, those of the 2021 Guideline

RCTs considered: 31st March 2021-31st March 2023



Trial acronym	Trial
ADVOR	Acetazolamide in Decompensated Heart Failure with Volume Overload
CLOROTIC	Combination of Loop Diuretics with Hydrochlorothiazide in Acute Heart Failure
COACH	Comparison of Outcomes and Access to Care for Heart Failure
DAPA-CKD	Dapagliflozin And Prevention of Adverse outcomes in Chronic Kidney Disease
DELIVER	Dapagliflozin Evaluation to Improve the LIVEs of Patients with PReserved Ejection Fraction Heart Failure
EMPA-KIDNEY	EMPAgliflozin once daily to assess cardio-renal outcomes in patients with chronic KIDNEY disease
EMPEROR-Preserved	Empagliflozin Outcome Trial in Patients with Chronic Heart Failure with Preserved Ejection Fraction
EMPULSE	Empagliflozin in Patients Hospitalized with Acute Heart Failure Who Have Been Stabilized
FIDELIO-DKD	Finerenone in Reducing Kidney Failure and Disease Progression in Diabetic Kidney Disease
FIGARO-DKD	Finerenone in Reducing Cardiovascular Mortality and Morbidity in Diabetic Kidney Disease
IRONMAN	Effectiveness of Intravenous Iron Treatment versus Standard Care in Patients with Heart Failure and Iron Deficiency
PIVOTAL	Proactive IV Iron Therapy in Haemodialysis Patients
REVIVED-BCIS2	Revascularization for Ischemic Ventricular Dysfunction
STRONG-HF	Safety, Tolerability and Efficacy of Rapid Optimization, Helped by NT-proBNP Testing, of Heart Failure Therapies
TRANSFORM-HF	Torsemide Comparison with Furosemide for Management of Heart Failure
TRILUMINATE Pivotal	Clinical Trial to Evaluate Cardiovascular Outcomes in Patients Treated With the Tricuspid Valve Repair System Pivotal

www.escardio.org/guidelines

2023 Focused update of the 2021 ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure (European Heart Journal; 2023 – doi:10.1093/eurheartj/ehad195)

2023 Focused Update of the 2021 ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure



Updated the following sections:

Chronic HF

- HF with mildly reduced ejection fraction (HFmrEF)
- HF with preserved ejection fraction (HFpEF)

Acute HF

Comorbidities and prevention of HF

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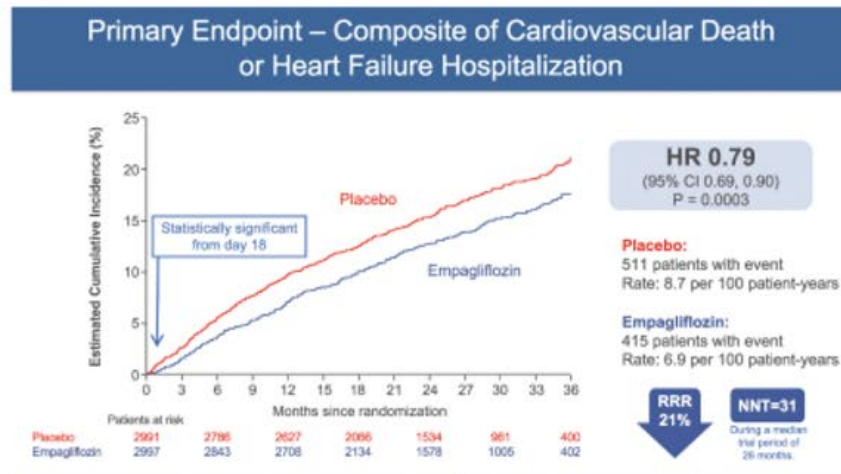
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CHF: EMPEROR-Preserved and DELIVER

SGLT2i Empagliflozin and Dapagliflozin HFpEF and HFmrEF

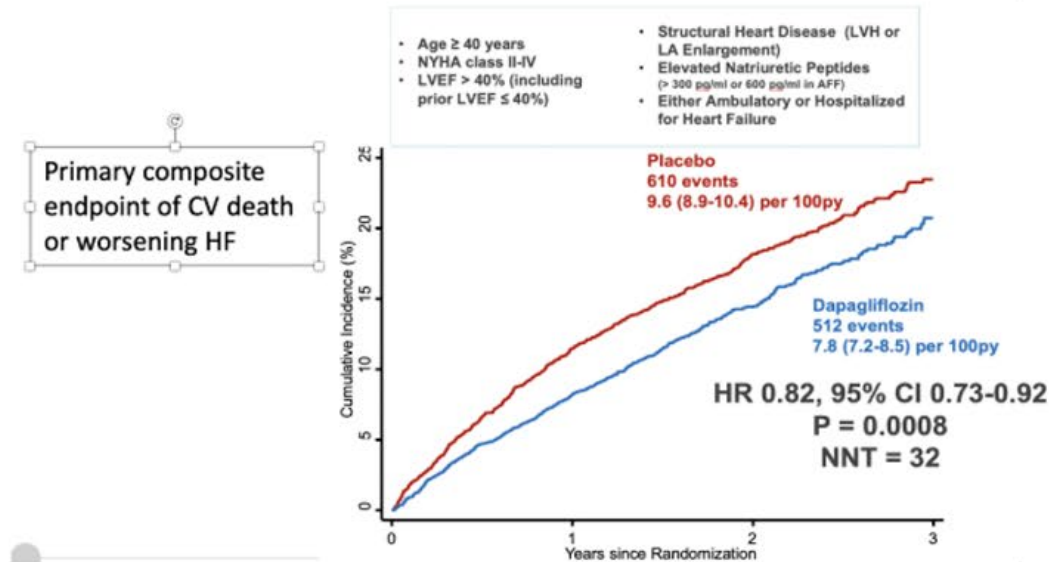
EMPEROR-Preserved

5988 patients with HF and LVEF > 40% ± T2DM at baseline
 LVEF > 40%, NT-proBNP > 300pg/ml or 900pm/ml in AF



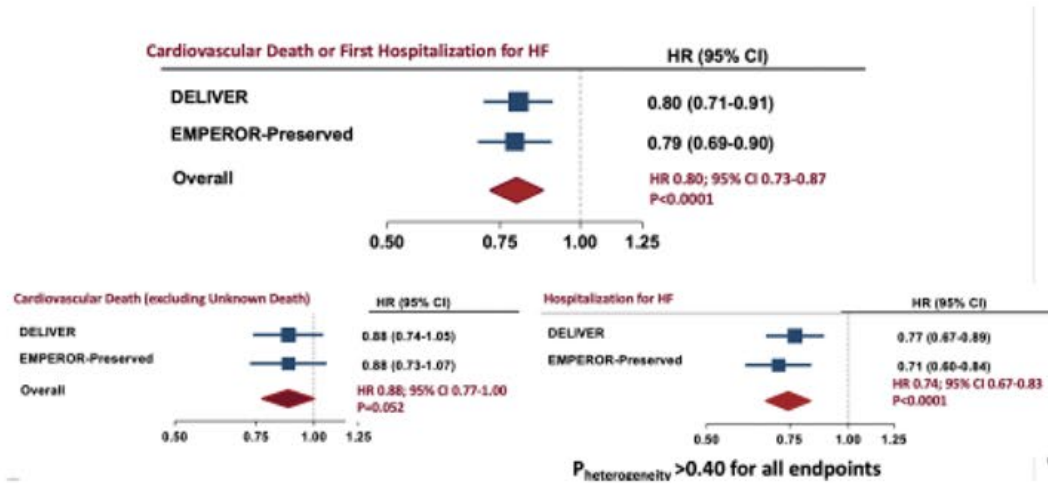
Anker SD et al. NEJM 2021;385(16):1451-1461

DELIVER



Solomon SD et al NEJM 2022;387:1089-1098

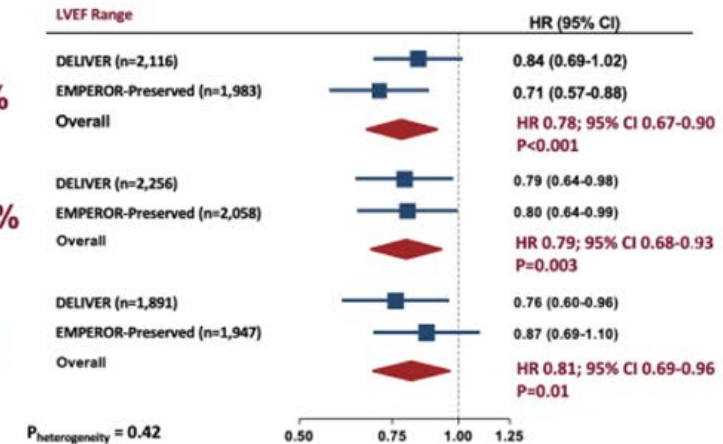
DELIVER and EMPEROR-Preserved Meta-Analysis



LVEF 41-49%

LVEF 50-59%

LVEF $\geq 60\%$



Vadugunathan M et al, Lancet 2022;400(10354):757-767.

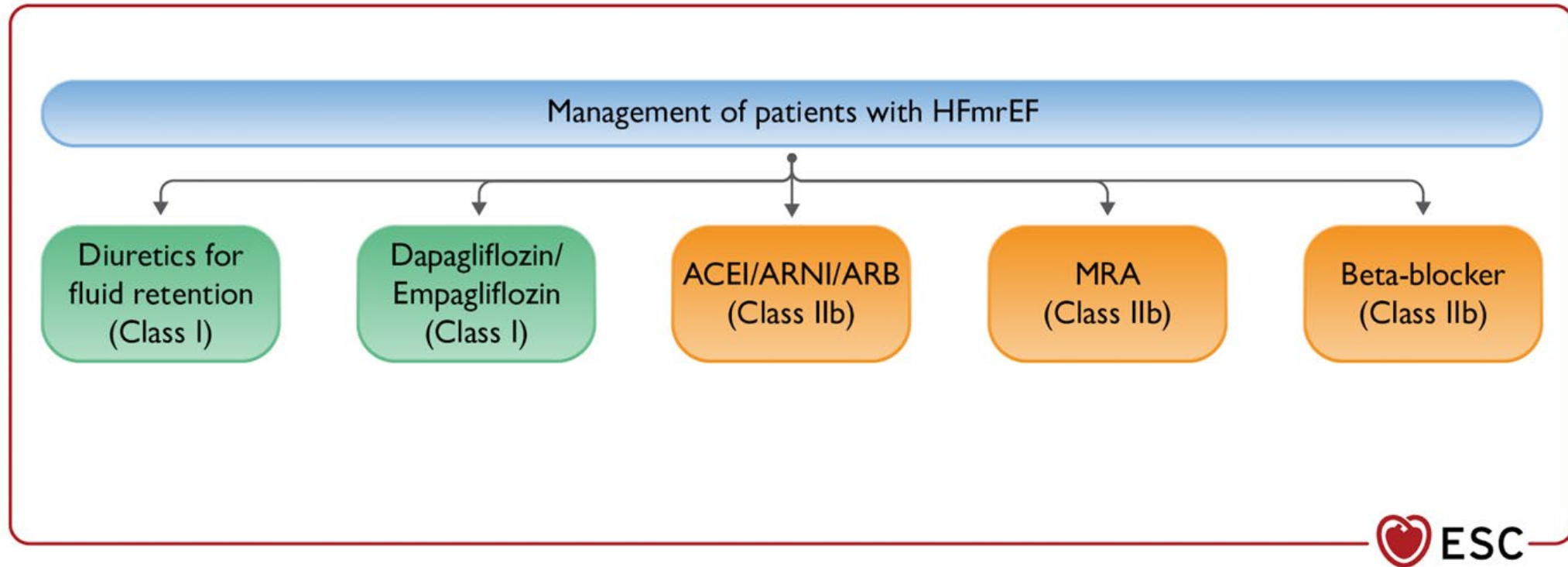
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Recommendation for the treatment of patients with symptomatic heart failure with mildly reduced ejection fraction

Recommendations	Class	Level
An SGLT2 inhibitor (dapagliflozin or empagliflozin) is recommended in patients with HFmrEF to reduce the risk of HF hospitalization or CV death.	I	A

Figure 1. Management of patients with heart failure with mildly reduced ejection fraction

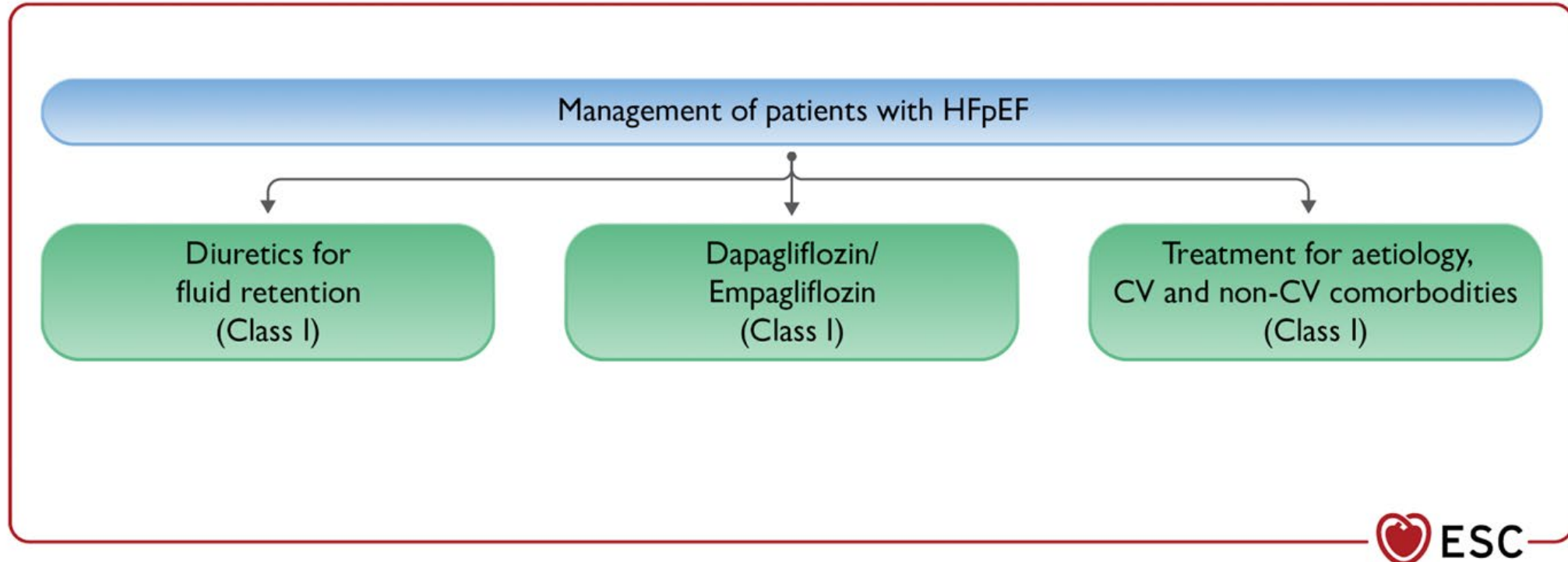


ACE-I, angiotensin-converting enzyme inhibitor; ARB, angiotensin receptor blocker; ARNI, angiotensin receptor–neprilysin inhibitor; HFmrEF, heart failure with mildly reduced ejection fraction; MRA, mineralocorticoid receptor antagonist.

Recommendation for the treatment of patients with symptomatic heart failure with preserved ejection fraction

Recommendations	Class	Level
An SGLT2 inhibitor (dapagliflozin or empagliflozin) is recommended in patients with HFpEF to reduce the risk of HF hospitalization or CV death.	I	A

Figure 2. Management of patients with heart failure with preserved ejection fraction



CV, cardiovascular; HFpEF, heart failure with preserved ejection fraction.

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Recommendations for pre-discharge and early post-discharge follow-up of patients hospitalized for acute heart failure ESC 2021 HF Guidelines



Recommendations	Class	Level
It is recommended that patients hospitalized for HF be carefully evaluated to exclude persistent signs of congestion before discharge and to optimize oral treatment	I	C
It is recommended that evidence-based oral medical treatment be administered before discharge.	I	C
An early follow-up visit is recommended at 1-2 weeks after discharge to assess signs of congestion, drug tolerance and start and/or uptitrate evidence-based therapy.	I	C
Ferric carboxymaltose should be considered for iron deficiency, defined as serum ferritin <100 ng/mL or serum ferritin 100–299 ng/mL with TSAT <20%, to improve symptoms and reduce rehospitalizations.	IIa	B

HR = heart failure; TSAT = transferrin saturation.

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Pre-discharge management: STRONG-HF

Patients

- 1078 patients hospitalized for acute HF
- Not already on full doses of GRMT
- Haemodynamically stable
- NT-proBNP >2500 pg/mL at screening, >10% decrease screening to randomization

Randomization

- High-intensity care (HIC) vs usual care (UC)

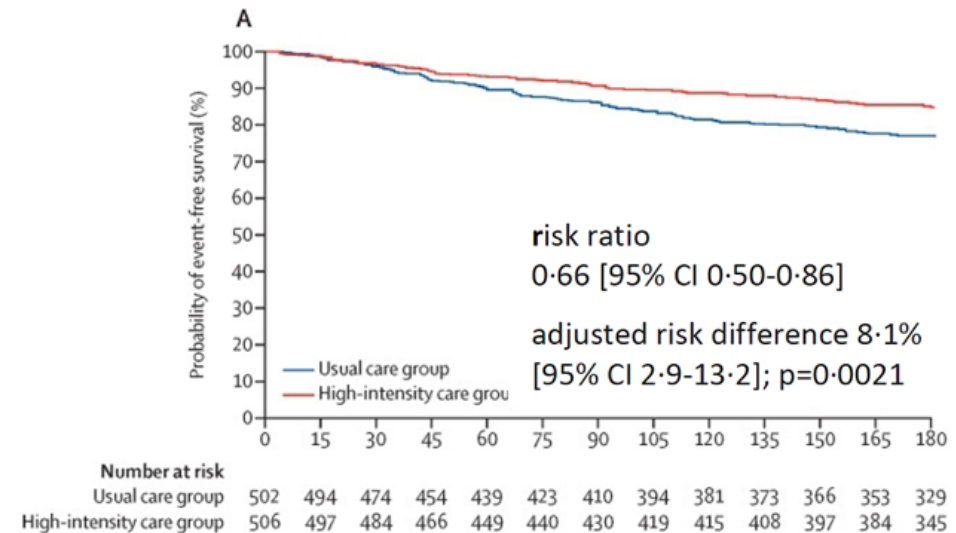
High intensity care

- Early (2 days before discharge) and rapid intensification of oral HF treatment with ACE-I/ARB/ARNI, beta-blockers and MRA

Results

Full doses of oral therapies. HIC vs UC

- ACEi/ARB/ARNI 55% vs. 2%,
- beta-blockers 49% vs. 4%
- MRA 84% vs. 46%



Mebazaa A et al Lancet. 2022 Dec 3;400(10367):1938-1952.

Recommendation for pre-discharge and early post-discharge follow-up of patients hospitalized for acute heart failure



Recommendations	Class	Level
An intensive strategy of initiation and rapid up-titration of evidence-based treatment before discharge and during frequent and careful follow-up visits in the first 6 weeks following a HF hospitalization is recommended to reduce the risk of HF rehospitalization or death.	I	B

2023 Focused Update of the 2021 ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure



Updated the following sections:

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- HF with mildly reduced ejection fraction (HFmrEF)
- HF with preserved ejection fraction (HFpEF)

Acute HF

Comorbidities and prevention of HF

- T2 diabetes and CKD
- Iron deficiency

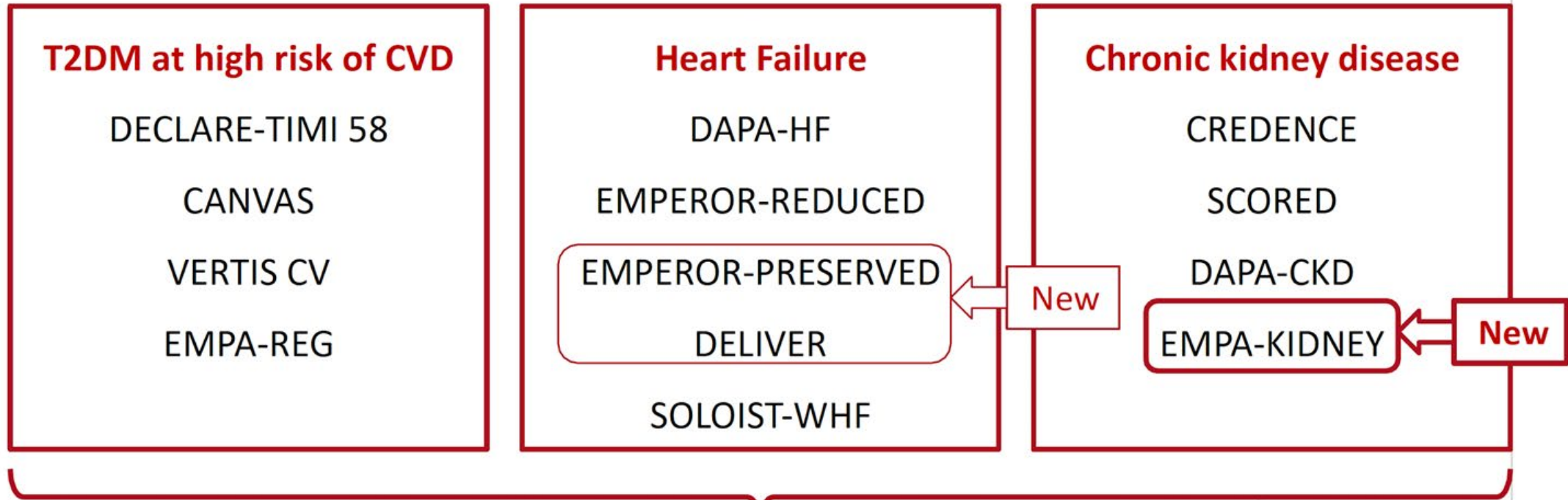
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2023 Focused update of the 2021 ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure
(European Heart Journal; 2023 – doi:10.1093/eurheartj/ehad195)

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Recommendations	Class	Level
SGLT2 inhibitors (canagliflozin, dapagliflozin, empagliflozin, ertugliflozin, sotagliflozin) are recommended in patients with T2DM at risk of CV events to reduce hospitalizations for HF, major CV events, end-stage renal dysfunction, and CV death.	I	A
SGLT2 inhibitors (dapagliflozin, empagliflozin, and sotagliflozin) are recommended in patients with T2DM and HFrEF to reduce hospitalizations for HF and CV death.	I	A

SGLT2 inhibitors trials



Impact of diabetes on the effects of sodium glucose co-transporter-2 inhibitors on kidney outcomes: collaborative meta-analysis of large placebo-controlled trials



The Nuffield Department of Population Health Renal Studies Group* and the SGLT2 inhibitor Meta-Analysis Cardio-Renal Trialists' Consortium*

www.escardio.org/guidelines

13 trials 90413 patients

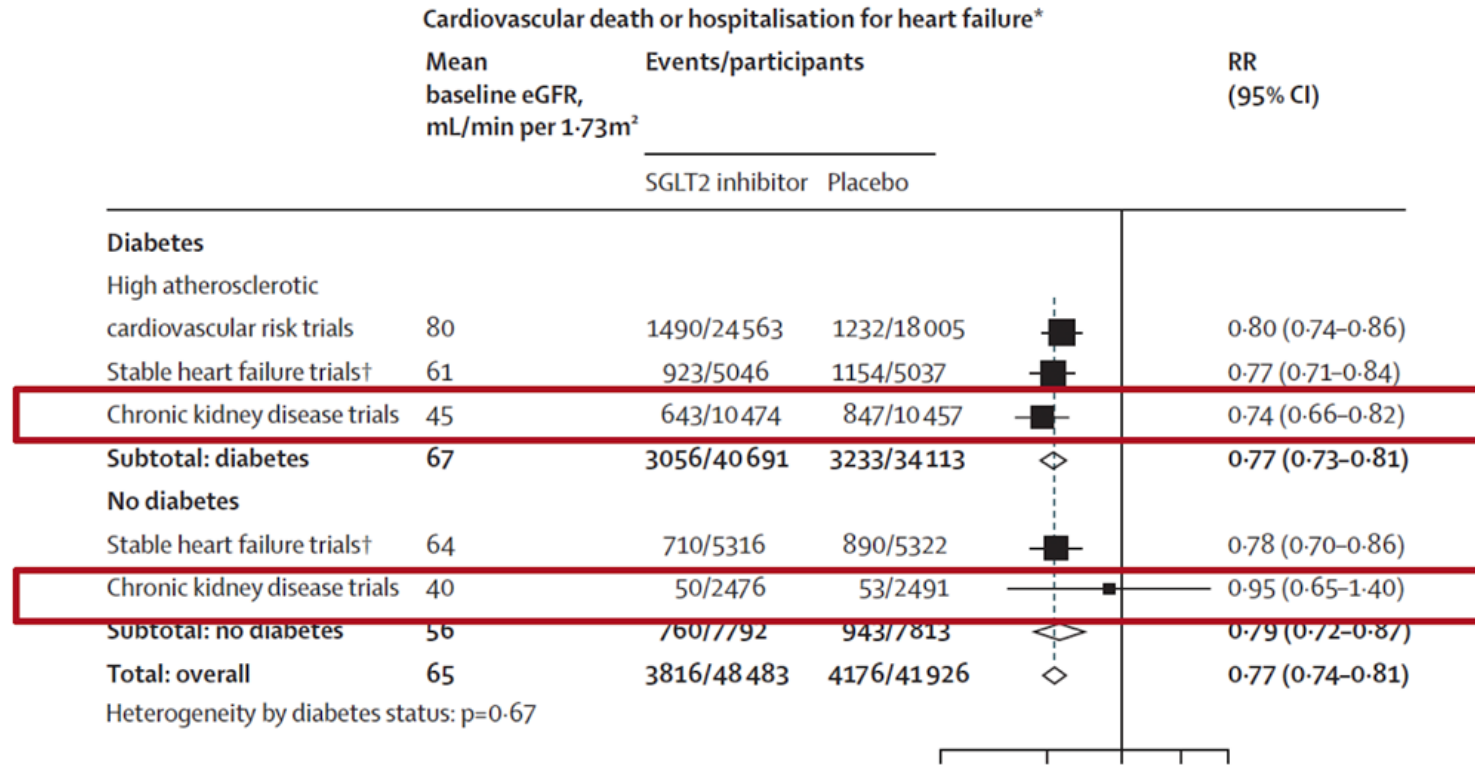


Impact of diabetes on the effects of sodium glucose co-transporter-2 inhibitors on kidney outcomes: collaborative meta-analysis of large placebo-controlled trials



The Nuffield Department of Population Health Renal Studies Group* and the SGLT2 inhibitor Meta-Analysis Cardio-Renal Trialists' Consortium*

Results



Lancet. 2022 Nov 19;400(10365):1788-1801

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Recommendations for the prevention of heart failure in patients with type 2 diabetes and chronic kidney disease



Recommendations

In patients with type 2 diabetes and CKD, SGLT2 inhibitors (dapagliflozin or empagliflozin) are recommended to reduce the risk of HF hospitalization or CV death.

Class **Level**

I

A

Finerenone trials

Effect of Finerenone on Chronic Kidney Disease Outcomes in Type 2 Diabetes

George L. Bakris, M.D., Rajiv Agarwal, M.D., Stefan D. Anker, M.D., Ph.D., Bertram Pitt, M.D., Luis M. Ruilope, M.D., Peter Rossing, M.D., Peter Kolkhof, Ph.D., Christina Nowack, M.D., Patrick Schloemer, Ph.D., Amer Joseph, M.B., B.S., and Gerasimos Filippatos, M.D., for the FIDELIO-DKD Investigators*

No. 5734 patients

Primary endpoint: composite of kidney failure, sustained \downarrow eGFR $\geq 40\%$ or death from renal causes.

Cardiovascular Events with Finerenone in Kidney Disease and Type 2 Diabetes

B. Pitt, G. Filippatos, R. Agarwal, S.D. Anker, G.L. Bakris, P. Rossing, A. Joseph, P. Kolkhof, C. Nowack, P. Schloemer, and L.M. Ruilope, for the FIGARO-DKD Investigators*

No. 7437 patients

Primary endpoint: composite of CV death, non-fatal MI, non-fatal stroke, or HF hospitalization

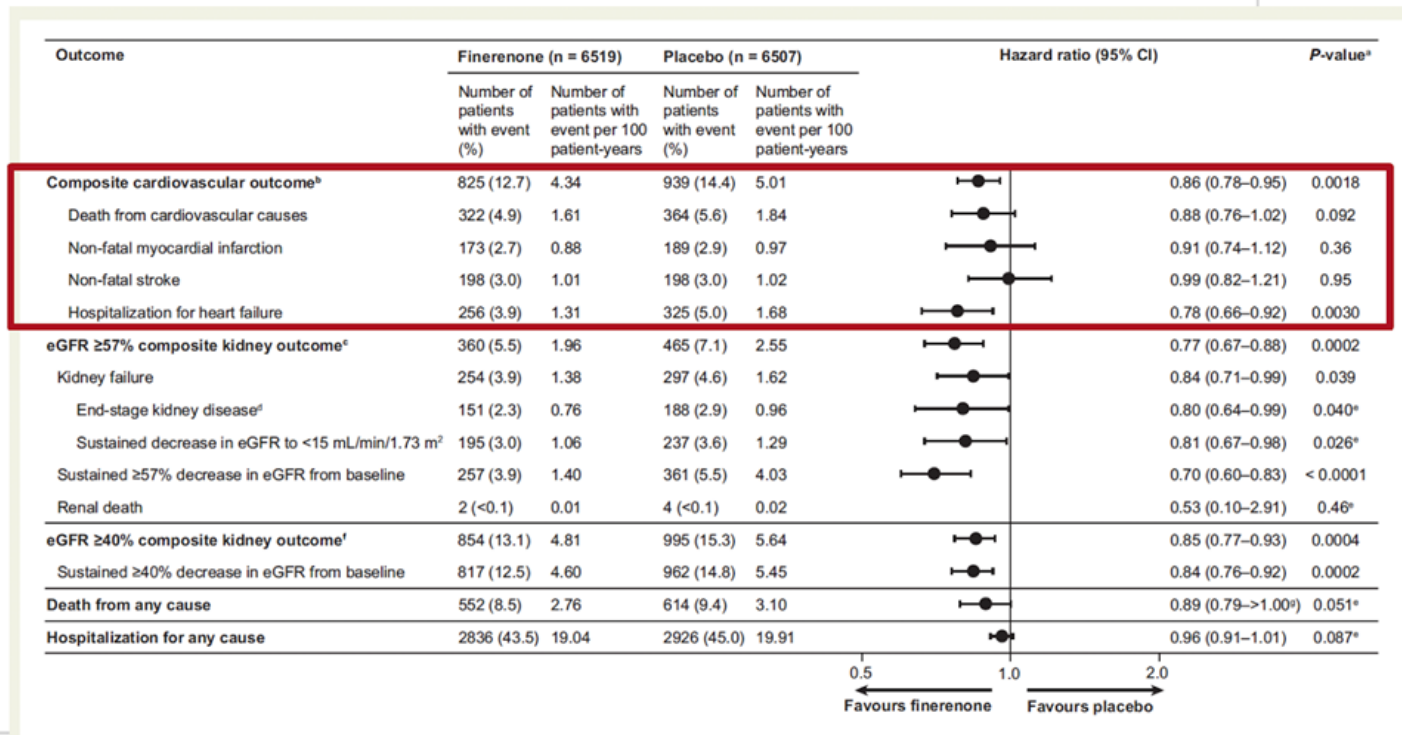
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ESC European Heart Journal (2022) 43, 474–494
 European Society of Cardiology <https://doi.org/10.1093/eurheartj/ehab777>

FASTTRACK CLINICAL RESEARCH
 Diabetes and metabolic disorders

Cardiovascular and kidney outcomes with finerenone in patients with type 2 diabetes and chronic kidney disease: the FIDELITY pooled analysis

No. = 13026 patients; Median FU= 3 yrs



2023 Focused update of the 2021 ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure (European Heart Journal; 2023 – doi:10.1093/eurheartj/ehad195)

Recommendations for the prevention of heart failure in patients with type 2 diabetes and chronic kidney disease



Recommendations	Class	Level
In patients with type 2 diabetes and CKD, SGLT2 inhibitors (dapagliflozin or empagliflozin) are recommended to reduce the risk of HF hospitalization or CV death.	I	A
In patients with type 2 diabetes and CKD, finerenone is recommended to reduce the risk of HF hospitalization.	I	A

Recommendations for anaemia and iron deficiency in patients with heart failure ESC 2021 HF Guidelines

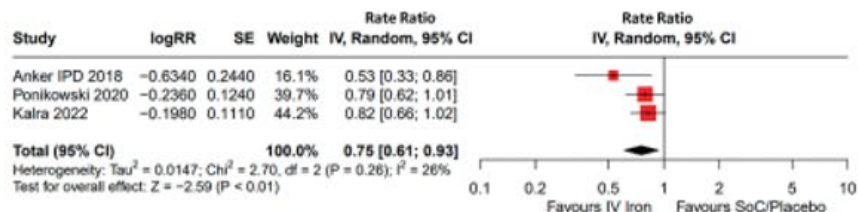
Recommendations	Class	Level
It is recommended that all patients with HF be periodically screened for anaemia and iron deficiency with a full blood count, serum ferritin concentration, and TSAT.	I	C
Intravenous iron supplementation with ferric carboxymaltose should be considered in symptomatic patients with LVEF <45% and iron deficiency, defined as serum ferritin <100 ng/mL or serum ferritin 100–299 ng/mL with TSAT <20%, to alleviate HF symptoms, improve exercise capacity and QOL.	IIa	A
Intravenous iron supplementation with ferric carboxymaltose should be considered in symptomatic HF patients recently hospitalized for HF and with LVEF <50% and iron deficiency, defined as serum ferritin <100 ng/mL or serum ferritin 100–299 ng/mL with TSAT <20%, to reduce the risk of HF hospitalization.	IIa	B

HF = heart failure; LVEF = left ventricular ejection fraction; QOL= quality of life; TSAT = transferrin saturation.

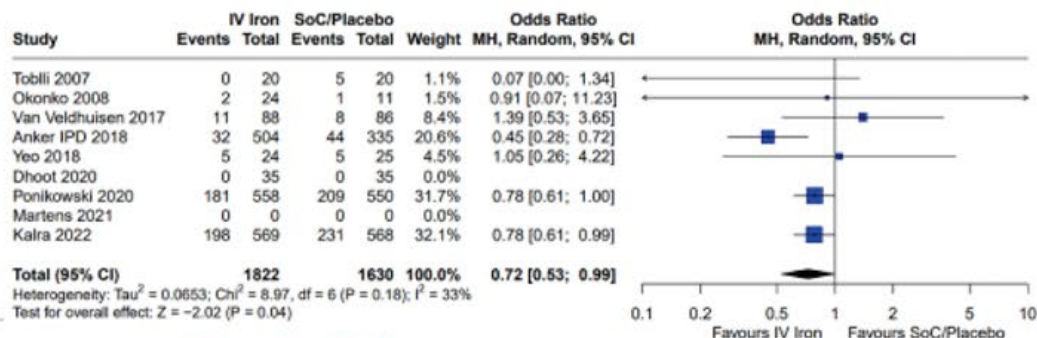
Intravenous iron in patients with heart failure and iron deficiency: an updated meta-analysis

Fraser J. Graham^{1*}, Pierpaolo Pellicori², Paul R. Kalra^{3,4,5}, Ian Ford¹, Dario Bruzzese⁶, and John G.F. Cleland²

A Random Effects: Composite of recurrent hospitalisation for heart failure or cardiovascular death



B Random Effects: First hospitalisation for heart failure or cardiovascular death

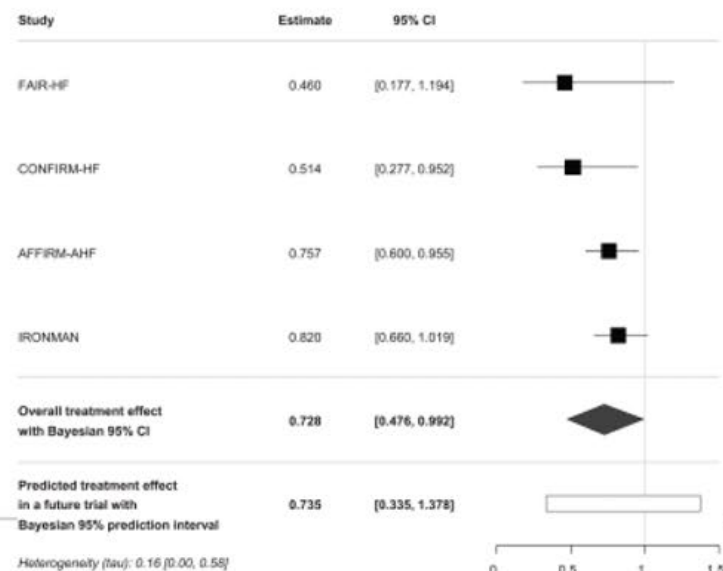


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Effect of intravenous iron replacement on recurrent heart failure hospitalizations and cardiovascular mortality in patients with heart failure and iron deficiency: A Bayesian meta-analysis

Stefan D. Anker^{1*}, Muhammad Shahzeb Khan², Javed Butler^{3,4}, Stephan von Haehling⁵, Ewa A. Jankowska⁶, Piotr Ponikowski⁶, and Tim Friede⁷

Total HF hospitalization or CV death



Recommendations for the management of iron deficiency in patients with heart failure



Recommendations	Class	Level
Intravenous iron supplementation is recommended in symptomatic patients with HFrEF and HFmrEF and iron deficiency, to alleviate HF symptoms and improve quality of life.	I	A
Intravenous iron supplementation with ferric carboxymaltose or ferric derisomaltose should be considered in symptomatic patients with HFrEF and HFmrEF and iron deficiency to reduce the risk of HF hospitalization.	Ila	A

**iSGLT-2 en
ICFEmr e ICFEp**

**Inicio GDMT
precoz y rápido
pre alta**

**iSGLT-2 y finerenona
en DM y ERC**

**Hierro i.v. En
ICFEr e ICFEmr**

Recommendations	Class	Level
An SGLT2 inhibitor (dapagliflozin or empagliflozin) is recommended in patients with HFmrEF to reduce the risk of HF hospitalization or CV death.	I	A
Recommendations	Class	Level
An SGLT2 inhibitor (dapagliflozin or empagliflozin) is recommended in patients with HFpEF to reduce the risk of HF hospitalization or CV death.	I	A
Recommendations	Class	Level
An intensive strategy of initiation and rapid up-titration of evidence-based treatment before discharge and during frequent and careful follow-up visits in the first 6 weeks following a HF hospitalization is recommended to reduce the risk of HF rehospitalization or death.	I	B
Recommendations	Class	Level
In patients with type 2 diabetes and CKD, SGLT2 inhibitors (dapagliflozin or empagliflozin) are recommended to reduce the risk of HF hospitalization or CV death.	I	A
In patients with type 2 diabetes and CKD, finerenone is recommended to reduce the risk of HF hospitalization.	I	A
Recommendations	Class	Level
Intravenous iron supplementation is recommended in symptomatic patients with HFrEF and HFmrEF and iron deficiency, to alleviate HF symptoms and improve quality of life.	I	A
Intravenous iron supplementation with ferric carboxymaltose or ferric derisomaltose should be considered in symptomatic patients with HFrEF and HFmrEF and iron deficiency to reduce the risk of HF hospitalization.	Ila	A

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Muchas Gracias

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