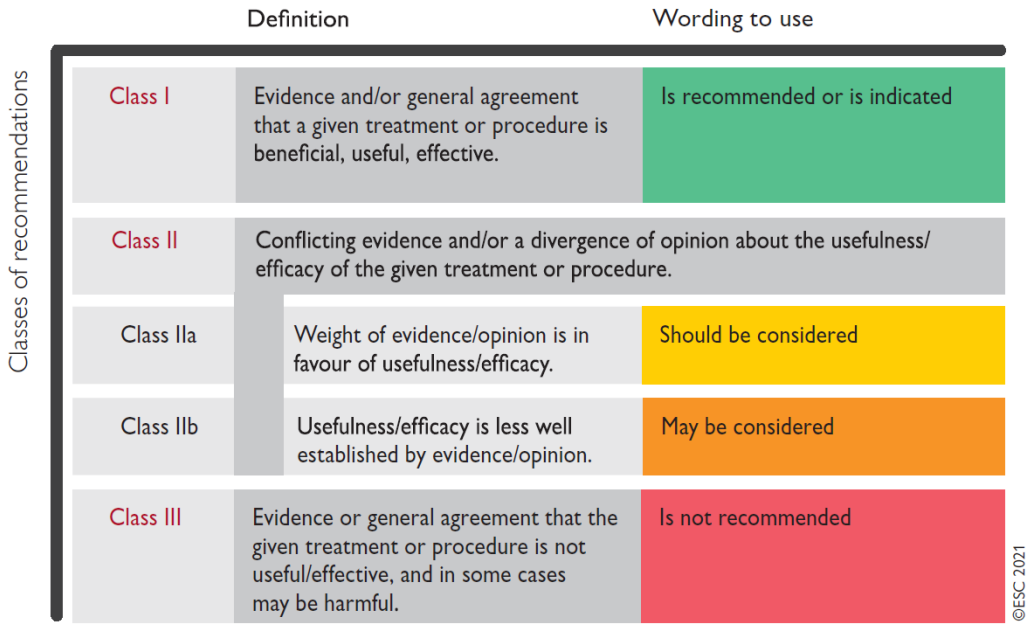
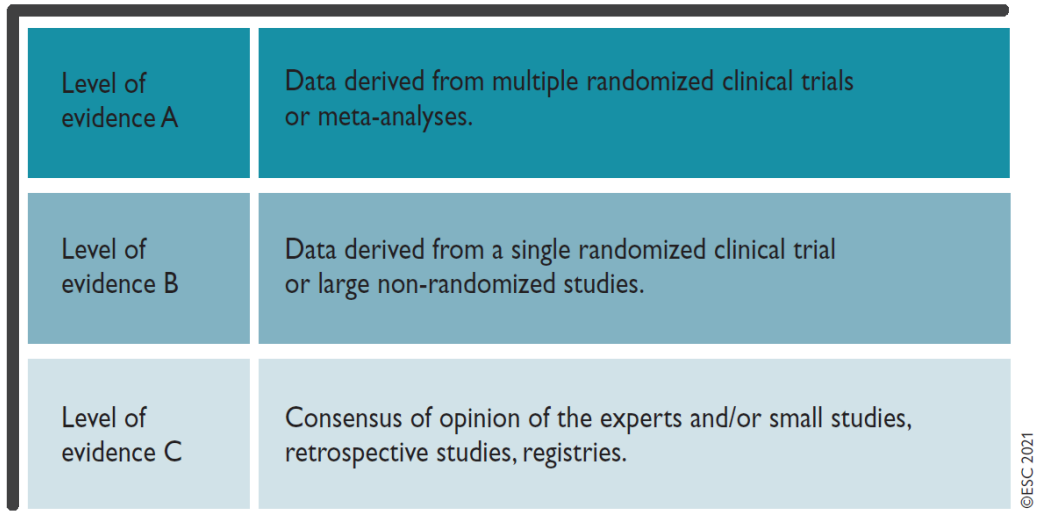
La nova guia d'IC de la ESC. Què destacaries?

Gabriel Vázquez Oliva
Servei de Cardiologia
Hospital Sant Joan de Déu
Xarxa Hospitalària Universitària de Manresa
Fundació Althaia

Classes de recomanació



Classes of recommendations	Definition	Wording to use
Class I	Evidence and/or general agreement that a given treatment or procedure is beneficial, useful, effective.	Is recommended or is indicated
Class II	Conflicting evidence and/or a divergence of opinion about the usefulness/ efficacy of the given treatment or procedure.	
Class IIa	Weight of evidence/opinion is in favour of usefulness/efficacy.	Should be considered
Class IIb	Usefulness/efficacy is less well established by evidence/opinion.	May be considered
Class III	Evidence or general agreement that the given treatment or procedure is not useful/effective, and in some cases may be harmful.	Is not recommended



Level of evidence A	Data derived from multiple randomized clinical trials or meta-analyses.
Level of evidence B	Data derived from a single randomized clinical trial or large non-randomized studies.
Level of evidence C	Consensus of opinion of the experts and/or small studies, retrospective studies, registries.

Definició Universal d'Insuficiència cardíaca

- La IC és una **síndrome clínica** amb **símptomes i signes** cardinals causats per una anomalia cardíaca estructural o funcional com FE<50%, creixement anormal de les cavitats cardíaques, E/E'>15, moderat/greu hipertròfia ventricular o moderada/greu lesions valvulars obstructives o regurgitants

- I corroborada per al menys 1 dels següents:
- **Pèptids natriurètics elevats**
- **Congestió pulmonar o sistèmica** (rx tòrax, pressions d'emplenament elevades per ecoc) o per hemodinàmiques

European Journal of Heart Failure (2021) **23**, 352–380

Definició Universal d'Insuficiència cardíaca

Table 6 Symptoms and signs of heart failure

European Journal of Heart Failure (2021) **23**, 352–380

Symptoms of heart failure	
Typical	Breathlessness
	Orthopnoea[a]
	Paroxysmal nocturnal dyspnoea[a]
	Reduced exercise tolerance[a]
	Fatigue, tiredness[b]
	Ankle swelling[a]
	Inability to exercise[a]
	Swelling of parts of the body other than ankles
	Bendopnoea
Signs of heart failure	
More specific	Elevated jugular venous pressure[a]
	Third heart sound[a]
	Summation gallop with third and fourth heart sounds
	Cardiomegaly, laterally displaced apical impulse
	Hepatojugular reflux
	Cheyne–Stokes respiration in advanced heart failure[b]

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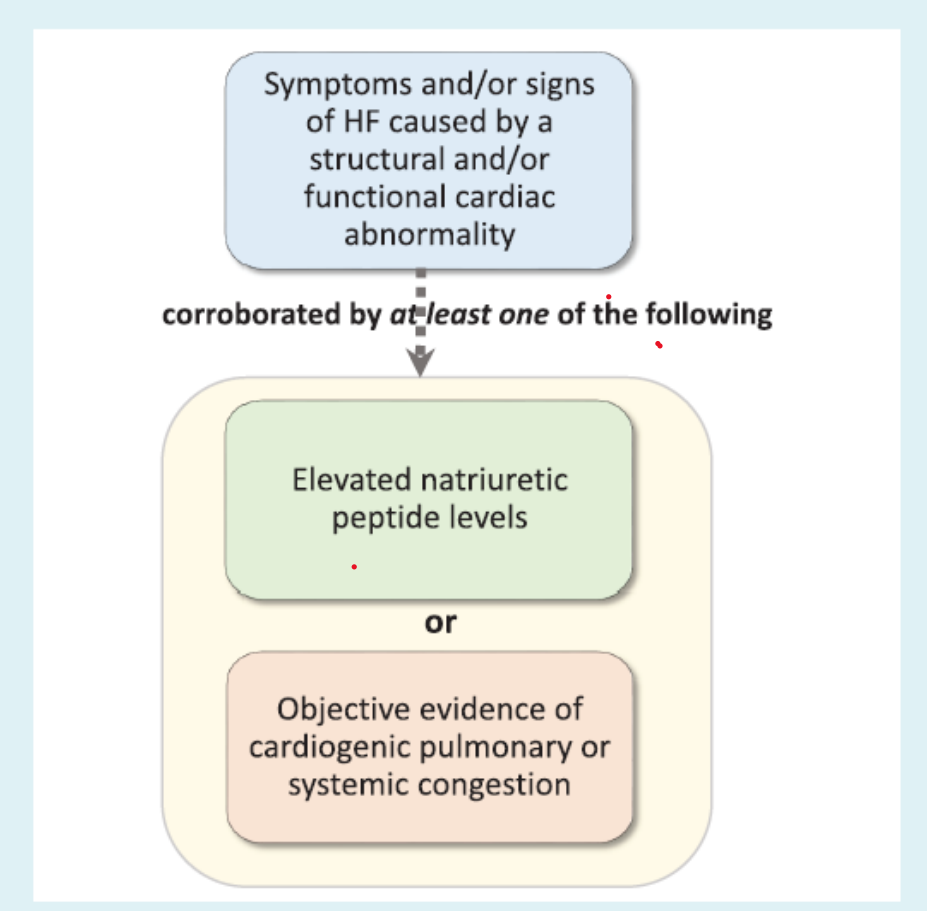
Definició Universal d'Insuficiència cardíaca



	Ambulatory	Hospitalized/ decompensated
BNP, pg/ml	≥35	≥ 100
NT-proBNP, pg/ml	≥ 125	≥300

Causes of elevated natriuretic peptide levels other than primary diagnosis of heart failure

Cardiovascular causes	Acute coronary syndrome, myocardial infarction
	Pulmonary embolism
	Myocarditis
	Hypertrophic cardiomyopathy
	Valvular heart disease
	Congenital heart disease
	Atrial or ventricular arrhythmias
	Heart contusion, cardiac infiltration or malignancy
	Cardioversion, ICD shock
	Pericardial disease
	Invasive or surgical procedures involving the heart
	Pulmonary hypertension, right ventricular failure
	Infiltrative cardiomyopathies
Non-cardiovascular causes	Advanced age
	Kidney disease
	Critical illnesses including sepsis syndrome, cytokine syndrome
	Ischaemic or haemorrhagic stroke
	Pulmonary disease (pneumonia, chronic obstructive pulmonary disease)
	Liver disease
	Severe anaemia
	Severe metabolic and hormone abnormalities (e.g. thyrotoxicosis, diabetic ketoacidosis, severe burns)

Causes of lower natriuretic peptide levels

	Obesity, or increased BMI
	Pericardial disease[a]

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NT-pro BNP

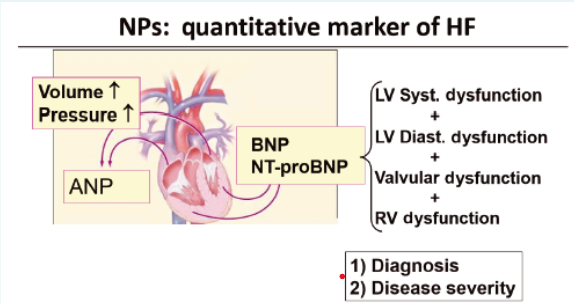


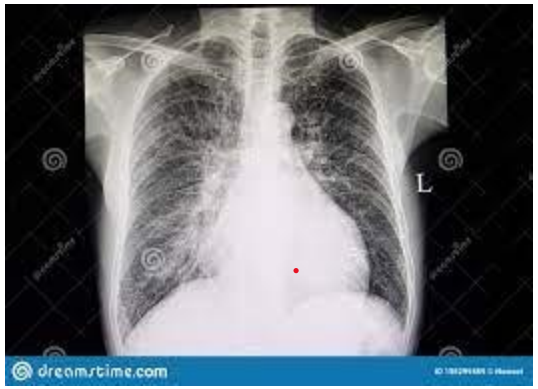
Figure 1 Haemodynamic determinants of natriuretic peptides (NPs). ANP, atrial natriuretic peptide; BNP, B-type natriuretic peptide; HF, heart failure; LV, left ventricular; NT-proBNP, N-terminal proBNP; RV, right ventricular.

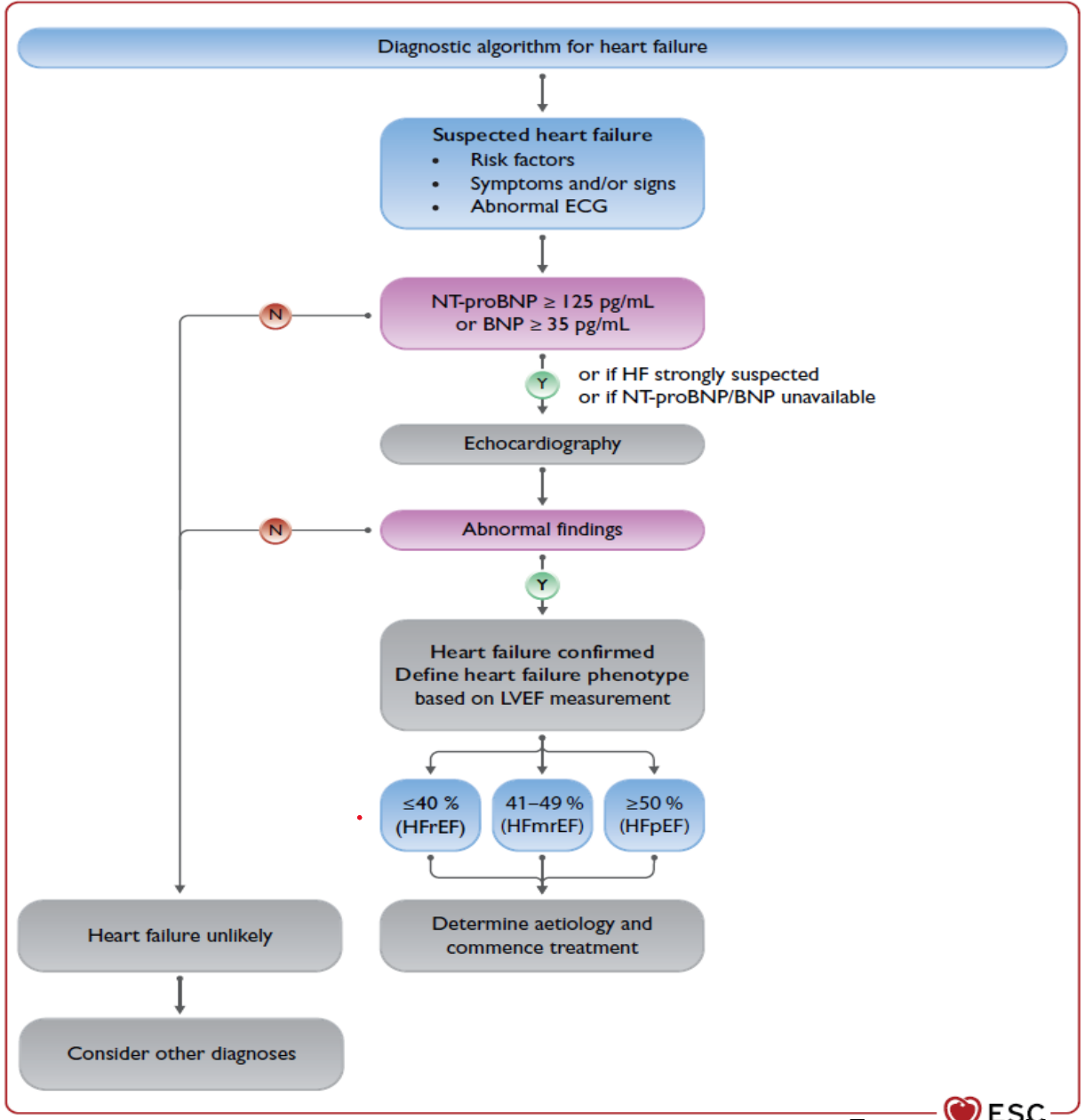
Table 2 Recommended natriuretic peptide cut-offs for acute heart failure

	Cut-off levels (pg/mL)			
	NT-proBNP			B
	Age < 50	Age 50–75	Age > 75	A
Acute setting, patient with acute dyspnoea				
HF unlikely	<300			<
'Grey zone'	300–450	300–900	300–1800	1(
HF likely	>450	>900	>1800	>·
Non-acute setting, patient with mild symptoms				
HF unlikely	<125			<
'Grey zone'	125–600			3!
HF likely	>600			>

IC aguda	NT-proBNP		
Edat	<50	50-75	> 75
	> 450 pg/mL	> 900 pg/mL	>1800 pg/mL
Fibril.lació auricular	+ 20-30 %		
IRC			

Symptoms	Signs
Typical	**More specific**
Breathlessness	Elevated jugular venous pressure
Orthopnoea	Hepatojugular reflux
Paroxysmal nocturnal dyspnoea	Third heart sound (gallop rhythm)
Reduced exercise tolerance	Laterally displaced apical impulse
Fatigue, tiredness, increased time to recover after exercise	
Ankle swelling	





Patients with HTN, CVD, DM, obesity, known exposure to cardiotoxins, family history of cardiomyopathy

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HVE
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ESC
European Heart Journal (2021) 00, 1128

Recommended diagnostic tests in all patients with suspected chronic heart failure

Recommendations	Class[a]	Level[b]
BNP/NT-proBNP[c]	I	B
12-lead ECG	I	C
Transthoracic echocardiography	I	C
Chest radiography (X-ray)	I	C
Routine blood tests for comorbidities, including full blood count, urea and electrolytes, thyroid function, fasting glucose and HbA1c, lipids, iron status (TSAT and ferritin)	I	C

European Heart Journal (2021) 00, 1128

Definition of heart failure with reduced ejection fraction, mildly reduced ejection fraction and preserved ejection fraction

Type of HF		HFrEF	HFmrEF	HFpEF
CRITERIA	1	Symptoms ± Signs[a]	Symptoms ± Signs[a]	Symptoms ± Signs[a]
	2	LVEF ≤40%	LVEF 41–49%[b]	LVEF ≥50%
	3	-	-	Objective evidence of cardiac structural and/or functional abnormalities consistent with the presence of LV diastolic dysfunction/raised LV filling pressures, including raised natriuretic peptides[c]

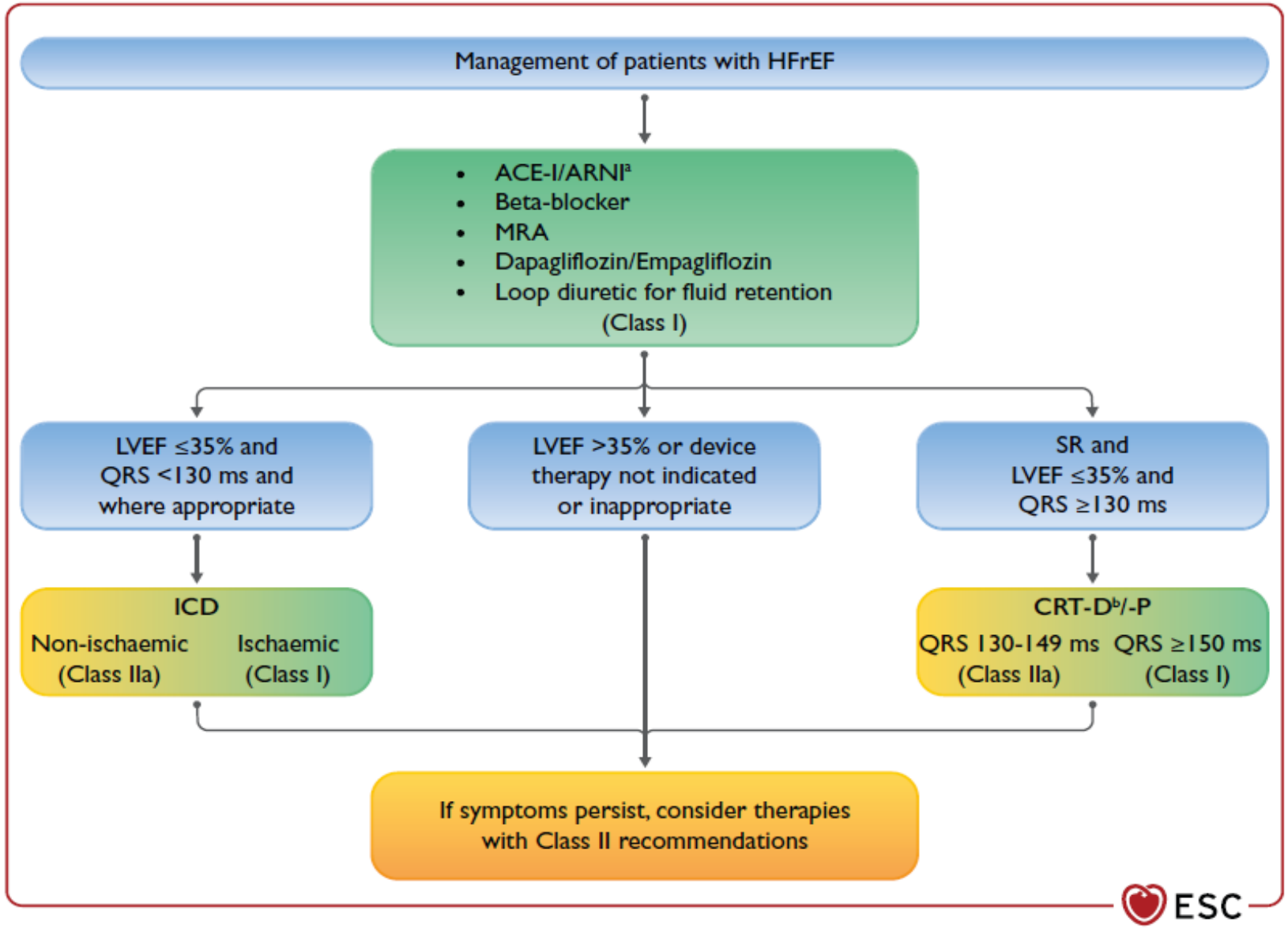
HF = heart failure; HFmrEF = heart failure with mildly reduced ejection fraction; HFpEF = heart failure with preserved ejection fraction; HFrEF = heart failure with reduced ejection fraction; LV = left ventricle; LVEF = left ventricular ejection fraction.

[a]Signs may not be present in the early stages of HF (especially in HFpEF) and in optimally treated patients.

[b]For the diagnosis of HFmrEF, the presence of other evidence of structural heart disease (e.g. increased left atrial size, LV hypertrophy or echocardiographic measures of impaired LV filling) makes the diagnosis more likely.

[c]For the diagnosis of HFpEF, the greater the number of abnormalities present, the higher the likelihood of HFpEF.

2021 ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure
(European Heart Journal 2021 – doi:10.1093/eurheartj/ehab368)



European Heart Journal (2021) 00, 1128

Tractament ICrFE

Pharmacological treatments indicated in patients with (NYHA class II-IV) heart failure with reduced ejection fraction (LVEF ≤40%)

Recommendations	Class	Level
An ACE-I is recommended for patients with HFrEF to reduce the risk of HF hospitalization and death.	I	A
A beta-blocker is recommended for patients with stable HFrEF to reduce the risk of HF hospitalization and death.	I	A
An MRA is recommended for patients with HFrEF to reduce the risk of HF hospitalization and death.	I	A
Dapagliflozin or empagliflozin are recommended for patients with HFrEF to reduce the risk of HF hospitalization and death.	I	A
Sacubitril/valsartan is recommended as a replacement for an ACE-I in patients with HFrEF to reduce the risk of HF hospitalization and death.	I	B

ACE-I = angiotensin-converting enzyme inhibitor; HF = heart failure; HFrEF = heart failure with reduced ejection fraction; LVEF = left ventricular ejection fraction; MRA = mineralocorticoid receptor antagonist; NYHA = New York Heart Association.

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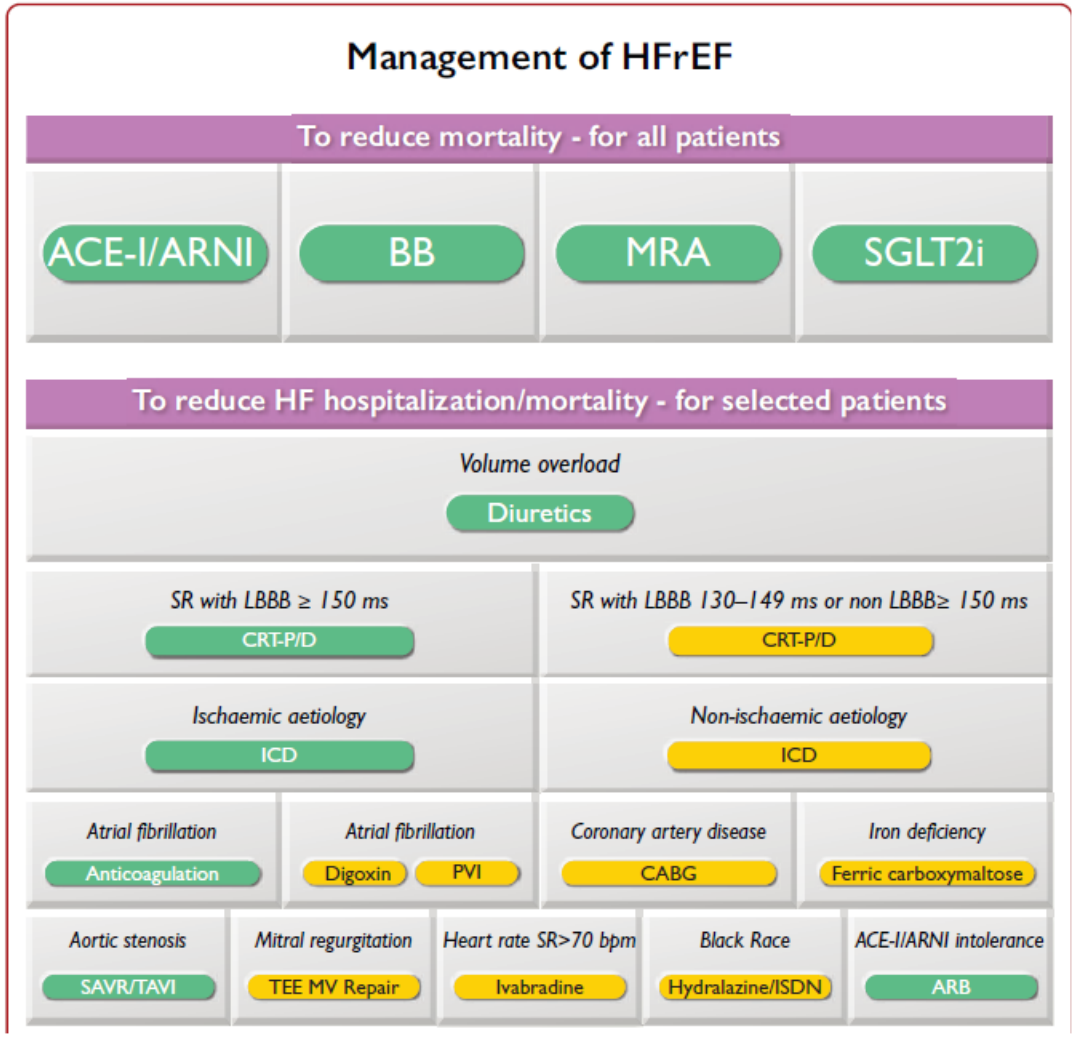
2021 ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure (European Heart Journal 2021 – doi:10.1093/eurheartj/ehab368)

Tractament ICrFE



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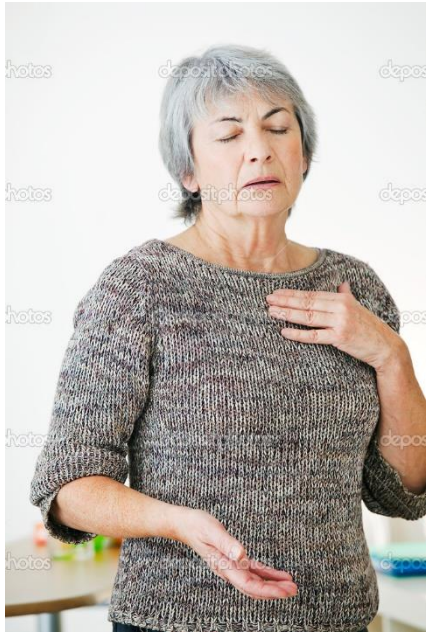

Pharmacological treatments to be considered in patients with (NYHA class II-IV) heart failure with mildly reduced ejection fraction

Recommendations	Class	Level
Diuretics are recommended in patients with congestion and HFmrEF in order to alleviate symptoms and signs.	I	C
An ACE-I may be considered for patients with HFmrEF to reduce the risk of HF hospitalization and death.	IIb	C
An ARB may be considered for patients with HFmrEF to reduce the risk of HF hospitalization and death.	IIb	C
A beta-blocker may be considered for patients with HFmrEF to reduce the risk of HF hospitalization and death.	IIb	C
An MRA may be considered for patients with HFmrEF to reduce the risk of HF hospitalization and death.	IIb	C
Sacubitril/valsartan may be considered for patients with HFmrEF to reduce the risk of HF hospitalization and death.	IIb	C

ACE-I = angiotensin-converting enzyme inhibitor; ARB = angiotensin-receptor blocker; HF = heart failure; HFmrEF = heart failure with mildly reduced ejection fraction; MRA = mineralocorticoid receptor antagonist; NYHA= New York Heart Association.

2021 ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure
(European Heart Journal 2021 – doi:10.1093/eurheartj/ehab368)

Tractament IC FE preservada

Definition of heart failure with reduced ejection fraction, mildly reduced ejection fraction and preserved ejection fraction

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CRITERIA	1	Symptoms ± Signs[a]	Symptoms ± Signs[a]	Symptoms ± Signs[a]
	2	LVEF ≤40%	LVEF 41–49%[b]	LVEF ≥50%
	3	-	-	Objective evidence of cardiac structural and/or functional abnormalities consistent with the presence of LV diastolic dysfunction/raised LV filling pressures, including raised natriuretic peptides[c]

HF = heart failure; HFmrEF = heart failure with mildly reduced ejection fraction; HFpEF = heart failure with preserved ejection fraction; HFrEF = heart failure with reduced ejection fraction; LV = left ventricle; LVEF = left ventricular ejection fraction.

[a]Signs may not be present in the early stages of HF (especially in HFpEF) and in optimally treated patients.

[b]For the diagnosis of HFmrEF, the presence of other evidence of structural heart disease (e.g. increased left atrial size, LV hypertrophy or echocardiographic measures of impaired LV filling) makes the diagnosis more likely.

[c]For the diagnosis of HFpEF, the greater the number of abnormalities present, the higher the likelihood of HFpEF.

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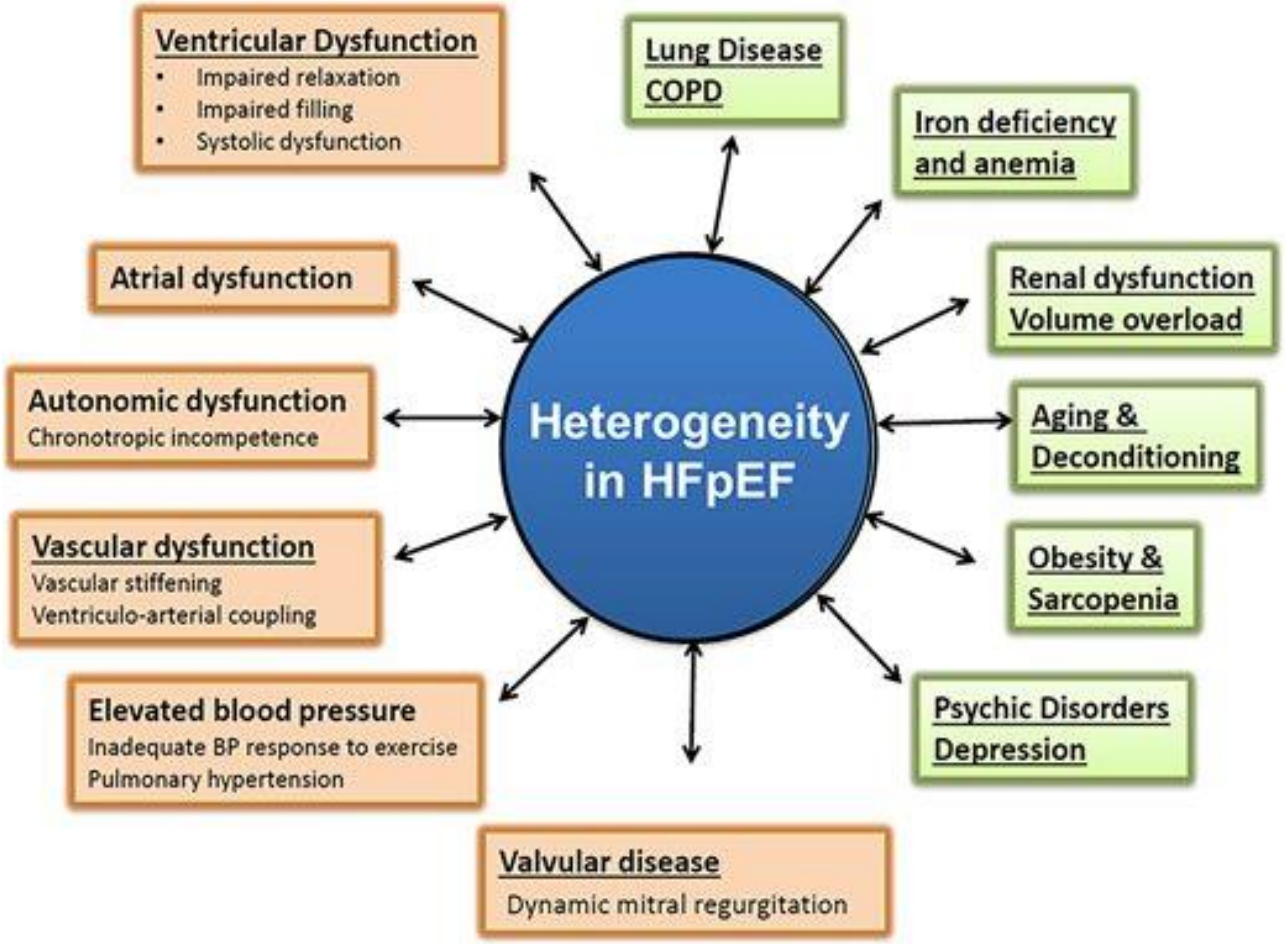
IC FE preservada

Parameter[a]	Threshold
LV mass index **Relative wall thickness**	≥**95** g/m^2 (Female), ≥**115** g/m^2 (Male) >**0.42**
LA volume index[a]	>**34** mL/m^2 (SR)
E/e' ratio at rest[a]	>**9**
NT-proBNP **BNP**	>**125** (SR) or >**365** (AF) pg/mL >**35** (SR) or >**105** (AF) pg/mL
PA systolic pressure **TR velocity at rest**[a]	>**35** mmHg >**2.8** m/s

IC preservada



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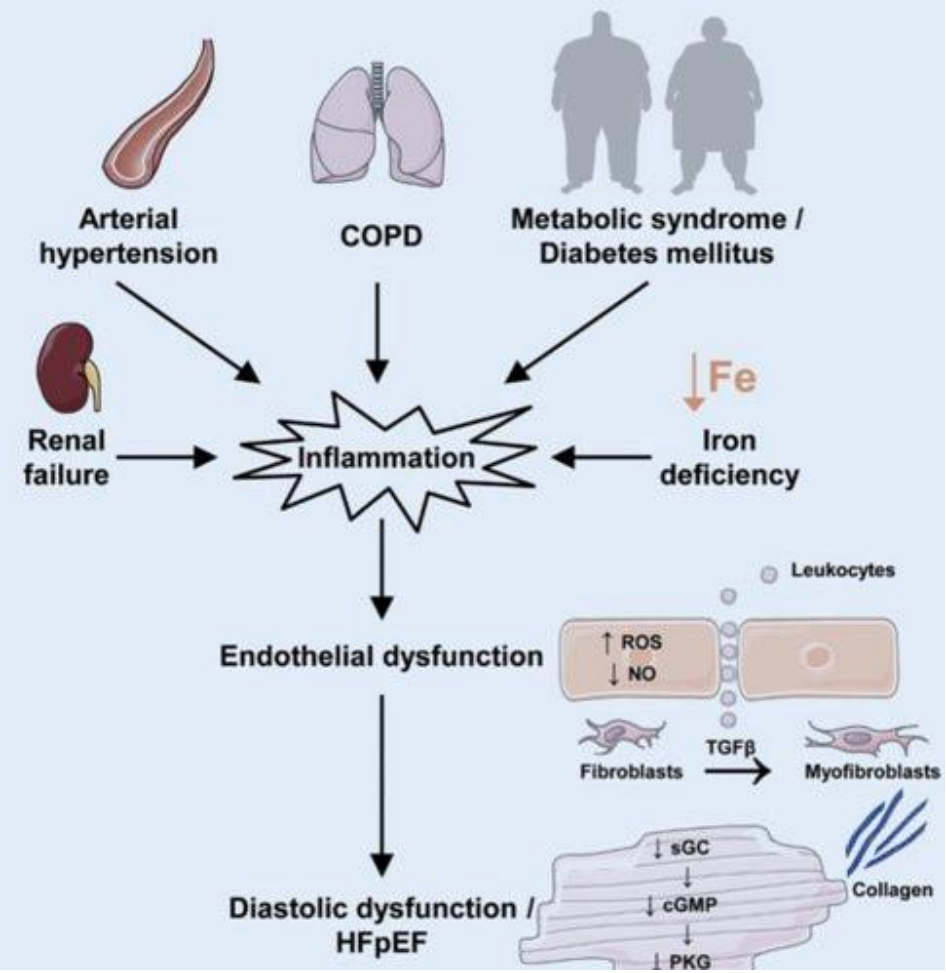


Recommendations for the primary prevention of heart failure in patients with risk factors for its development

Recommendations	Class	Level
Treatment of hypertension is recommended to prevent or delay the onset of HF, and to prevent HF hospitalizations.	I	A
Treatment with statins is recommended in patients at high risk of CV disease or with CV disease in order to prevent or delay the onset of HF, and to prevent HF hospitalizations.	I	A
SGLT2 inhibitors (canagliflozin, dapagliflozin, empagliflozin, ertugliflozin, sotagliflozin) are recommended in patients with diabetes at high risk of CV disease or with CV disease in order to prevent HF hospitalizations.	I	A
Counselling against sedentary habit, obesity, cigarette smoking, and alcohol abuse is recommended to prevent or delay the onset of HF.	I	C

CV=cardiovascular; HF=heart failure; SGLT2=sodium-glucose co-transporter 2.

2021 ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure
(European Heart Journal 2021 – doi:10.1093/eurheartj/ehab368)

Tractament en la IC amb FE preservada

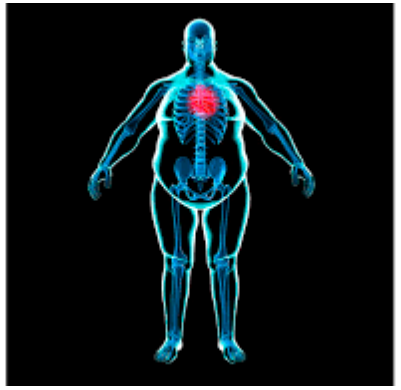
Recommendations	Class[a]	Level[b]
Screening for, and treatment of, aetiologies, and cardiovascular and non-cardiovascular comorbidities is recommended in patients with HFpEF (see relevant sections of this document).	I	C
Diuretics are recommended in congested patients with HFpEF in order to alleviate symptoms and signs.[137]	I	C

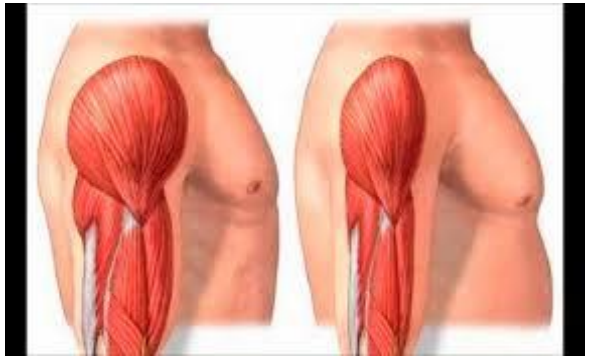
Tractament en la IC amb FE preservada

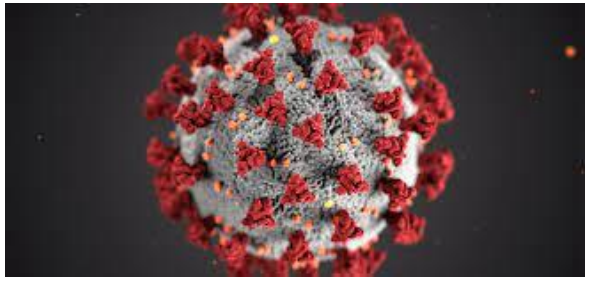
Risk factors for heart failure	Preventive strategies
Sedentary habit	Regular physical activity
Cigarette smoking	Cigarette smoking cessation
Obesity	Physical activity and healthy diet
Excessive alcohol intake[286]	General population: no/light alcohol intake is beneficial Patients with alcohol-induced CMP should abstain from alcohol
Influenza	Influenza vaccination
Microbes (e.g. *Trypanosoma cruzi*, Streptococci)	Early diagnosis, specific antimicrobial therapy for either prevention and/or treatment
Cardiotoxic drugs (e.g., anthracyclines)	Cardiac function and side effect monitoring, dose adaptation, change of chemotherapy
Chest radiation	Cardiac function and side effect monitoring, dose adaptation
Hypertension	Lifestyle changes, antihypertensive therapy
Dyslipidaemia	Healthy diet, statins
Diabetes mellitus	Physical activity and healthy diet, SGLT2 inhibitors
CAD	Lifestyle changes, statin therapy

CAD = coronary artery disease; CMP = cardiomyopathy; SGLT2 = sodium-glucose co-transporter 2.

Comorbiditats no cardiovasculars







Anèmia i dèficit de Fe

Iron deficiency is defined as
either a **serum ferritin** concentration

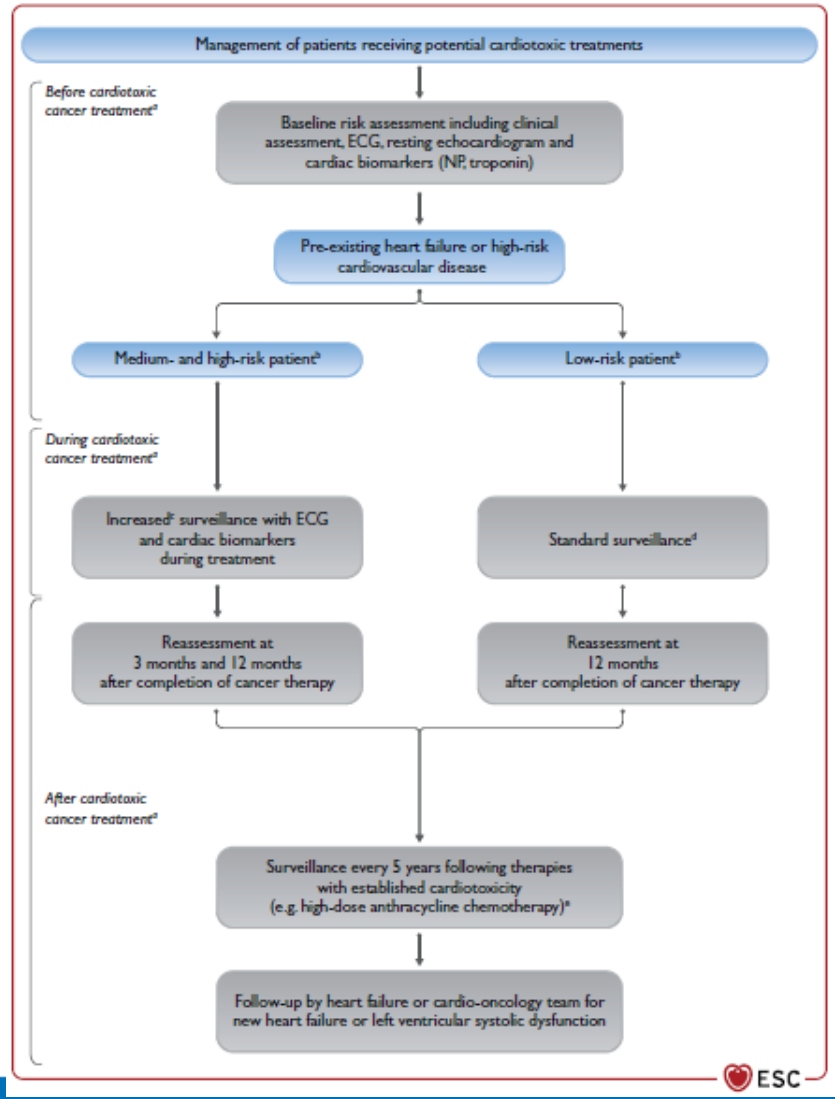
<100 ng/mL

or 100-299 ng/
mL with **transferrin saturation** (TSAT)

<20%

Recommendations	Class[a]	Level[b]
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.[720,722,724]	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.[512]	IIa	B

Cardio-Oncologia



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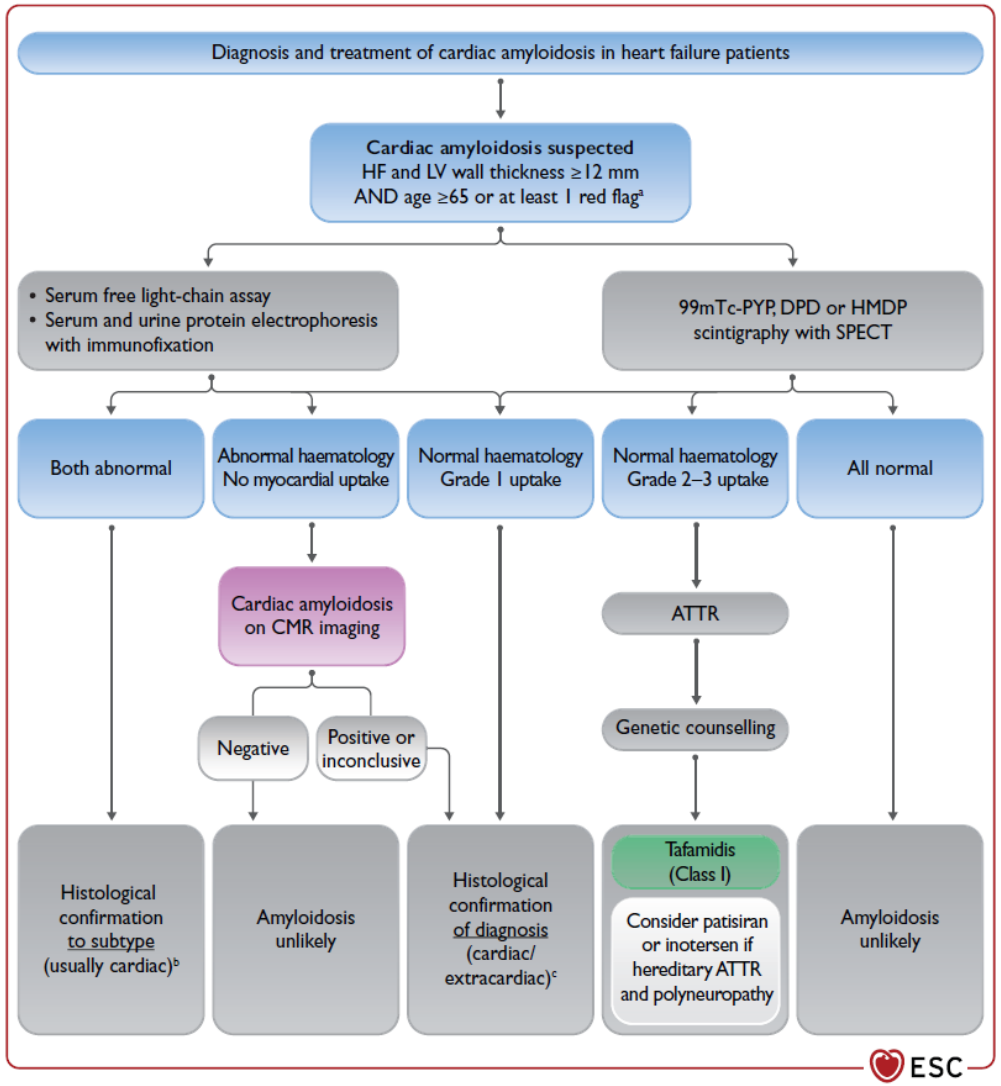

Gestió multidisciplinària

Insuficiència cardíaca

Infermeria experta

Paliatius

Nutricionista/endocrinòleg

Psicòleg

Cardiologia

Pacient expert

Medicina Interna

Nefrologia

MFiC

Fisioteràpia/Rehabilitació

Gestió multidisciplinària

Multidisciplinary interventions recommended for the management of chronic heart failure

Recommendations	Class[a]	Level[b]
It is recommended that HF patients are enrolled in a multidisciplinary HF management programme to reduce the risk of HF hospitalization and mortality.[309,314,315,316]	I	A
Self-management strategies are recommended to reduce the risk of HF hospitalization and mortality.[309]	I	A
Either home-based and/or clinic-based programmes improve outcomes and are recommended to reduce the risk of HF hospitalization and mortality.[310,317]	I	A
Influenza and pneumococcal vaccinations should be considered in order to prevent HF hospitalizations.[315,316]	IIa	B

Important characteristics and components in a heart failure management program (1)

Characteristics
1. Patient /person-centred
2. Multidisciplinary
3. The focus of the programme should be flexible • prevention of disease progression • symptom control • maintaining patients in their preferred place of care for end-stage HF
4. Competent and professionally educated staff
5. Encourage patient/carer engagement in the understanding and management of their condition

AF = atrial fibrillation; BNP = B-type natriuretic peptide; E/e'ratio = early filling velocity on transmitral Doppler/early relaxation velocity on tissue Doppler; HFpEF = heart failure with preserved ejection fraction; NP = natriuretic peptide; NT-proBNP = N-terminal pro-B-type natriuretic peptide; SR = sinus rhythm. Note: The greater the number of abnormalities present, the higher the likelihood of HFpEF. [a]Only commonly used indices are listed in the table; for less commonly used indices refer to the consensus document of the ESC/HFA.

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Recommendations for exercise rehabilitation in patients with chronic heart failure

Recommendations	Class[a]	Level[b]
Exercise is recommended for all patients who are able in order to improve exercise capacity, QOL, and reduce HF hospitalization.[c] [324–328,335–337]	I	A
A supervised, exercise-based, cardiac rehabilitation programme should be considered in patients with more severe disease, frailty, or with comorbidities.[95,324–327,338]	IIa	C

Gràcies