Managing Heart Failure in 2023 and Beyond - Optimizing Medical and Device Therapy

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I have no disclosures

Management

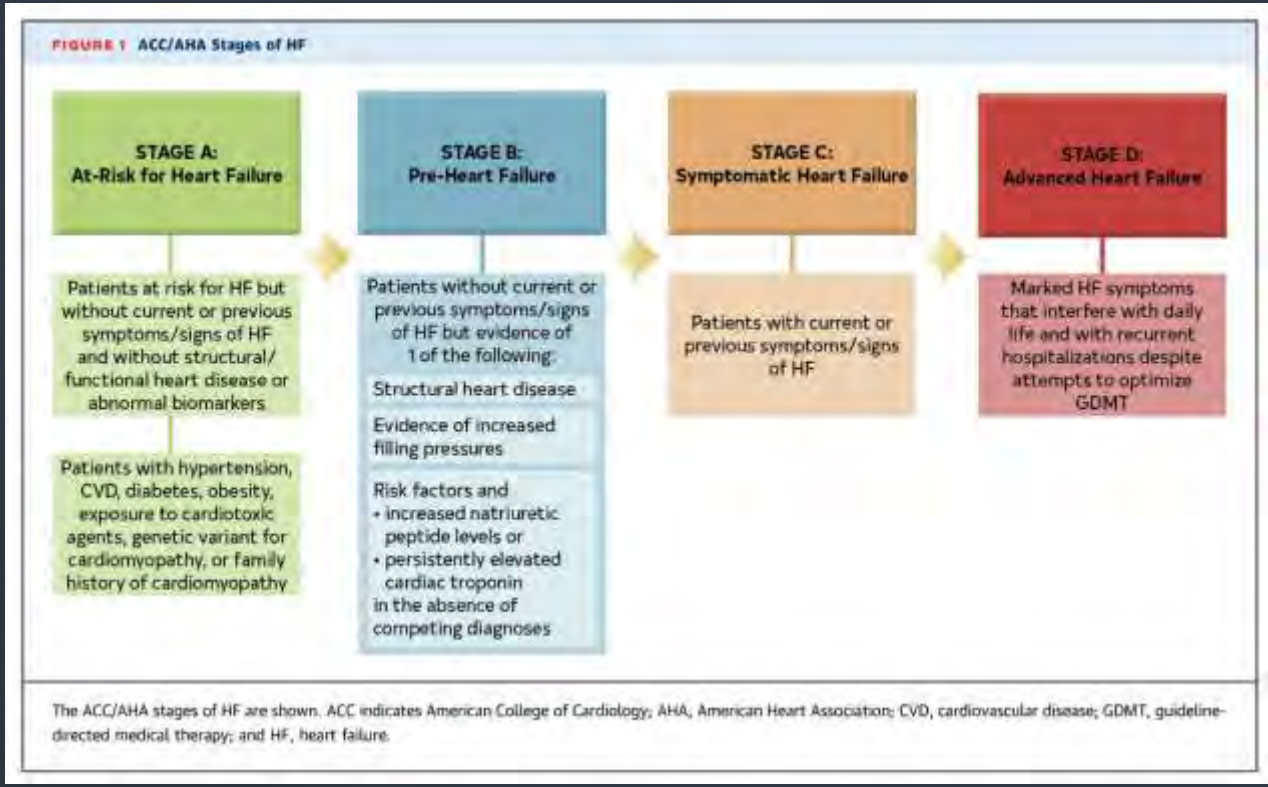
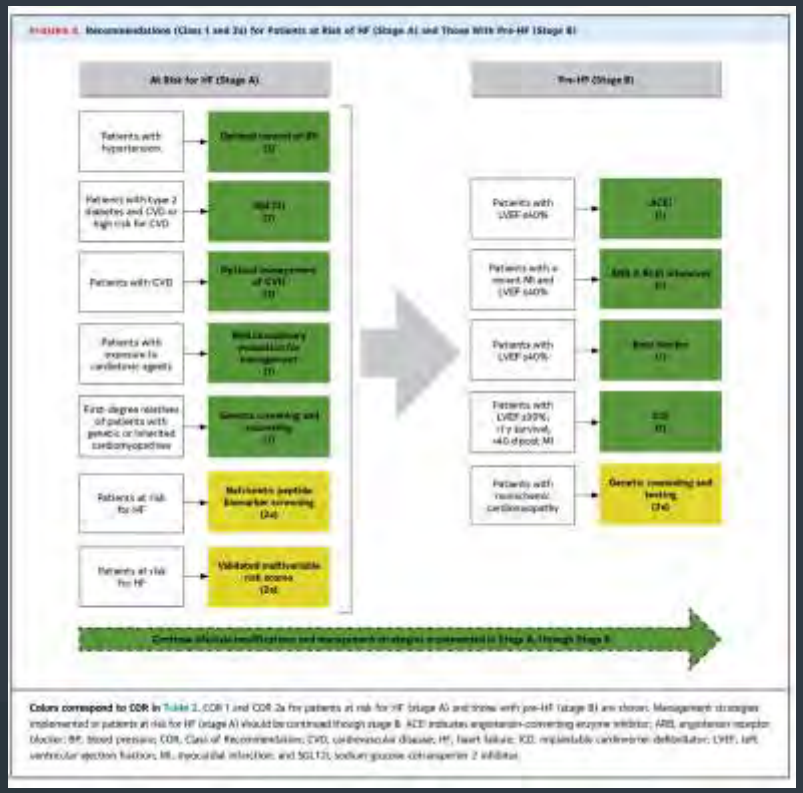
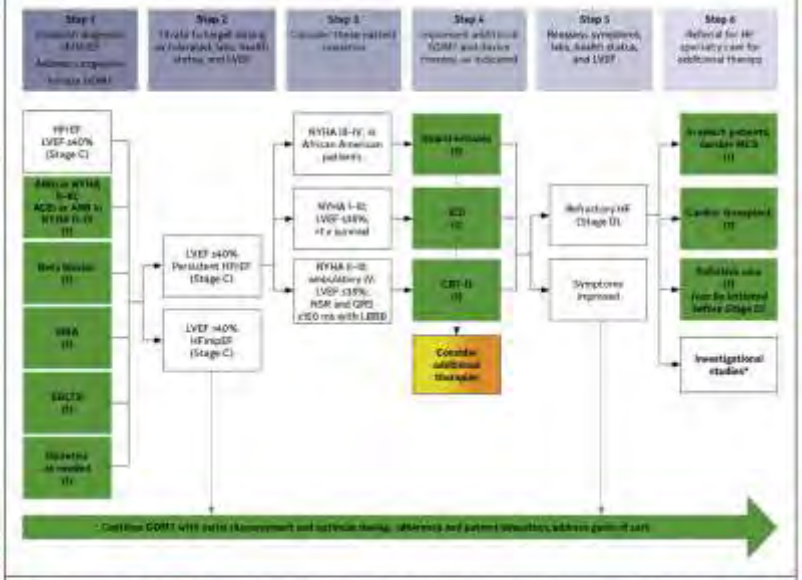


FIGURE 1 ACC/AHA Stages of HF
STAGE A:
At-Risk for Heart Failure
Patients at risk for HF but without current or previous symptoms/signs of HF and without structural/functional heart disease or abnormal biomarkers
Patients with hypertension, CVD, diabetes, obesity, exposure to cardiotoxic agents, genetic variant for cardiomyopathy, or family history of cardiomyopathy
STAGE B:
Pre-Heart Failure
Patients without current or previous symptoms/signs of HF but evidence of 1 of the following:
Structural heart disease
Evidence of increased filling pressures
Risk factors and
• increased natriuretic peptide levels or
• persistently elevated cardiac troponin
in the absence of competing diagnoses
STAGE C:
Symptomatic Heart Failure
Patients with current or previous symptoms/signs of HF
STAGE D:
Advanced Heart Failure
Marked HF symptoms that interfere with daily life and with recurrent hospitalizations despite attempts to optimize GDMT
The ACC/AHA stages of HF are shown. ACC indicates American College of Cardiology; AHA, American Heart Association; CVD, cardiovascular disease; GDMT, guideline-directed medical therapy; and HF, heart failure.



Colors correspond to COR in Table 1. COR 1 and COR 2a for patients at risk for HF (stage A) and those with pre-HF (stage B) are shown. Management strategies implemented in patients at risk for HF (stage A) should be continued through stage B. ACEI indicates angiotensin-converting enzyme inhibitor; ARB, angiotensin receptor blocker; BP, blood pressure; COR, Class of Recommendation; CVD, cardiovascular disease; HF, heart failure; ICD, implantable cardioverter-defibrillator; LVEF, left ventricular ejection fraction; MI, myocardial infarction; and SGLT2i, sodium-glucose cotransporter 2 inhibitor.



Colors correspond to COR in Table 3. Treatment recommendations for patients with HFrEF are displayed. Step 1 medications may be started simultaneously at initial (low) doses recommended for HFrEF. Alternatively, these medications may be started sequentially, with sequence guided by clinical or other factors, without need to achieve target dosing before initiating next medication. Medication doses should be increased to target as tolerated. ACEI, indicates angiotensin-converting enzyme inhibitor; ARB, angiotensin receptor blocker; ARNI, angiotensin receptor-neprilysin inhibitor; COR, Class of Recommendation; CRT, cardiac resynchronization therapy; GDMT, guideline-directed medical therapy; ICD, implantable cardioverter-defibrillator; hydralazine and isosorbide dinitrate; HFrEF, heart failure with reduced ejection fraction; LBBB, left bundle branch block; MCS, mechanical circulatory support; LVEF, left ventricular ejection fraction; MRA, mineralocorticoid receptor antagonist; NSR, normal sinus rhythm; NYHA, New York Heart Association; and SGLT2i, sodium-glucose cotransporter 2 inhibitor. *Participation in investigational studies is appropriate for stage C, NYHA class II and III HF.

4 Pillars of GDMT

Beta Blockers

metoprolol succinate

carvedilol

bisoprolol

Mineralocorticoid blockers

Spironolactone

eplerenone

Ace Inhibitors / Angiotensin Receptor Antagonist

ACE-I	ARB
Lisinopril	Candesartan
Captopril	Valsartan
enalapril	

Angiotensin Receptor/Neprilysin Inhibitor (ARNI)

PARADIGM

PIONEER

PARAGON-HF

SGLT2 Inhibitors

EMPA-REG
CANVAS
DELIVER

*Meta-analysis of SGLT2i studies showed a 23% RRR CV death/HFH

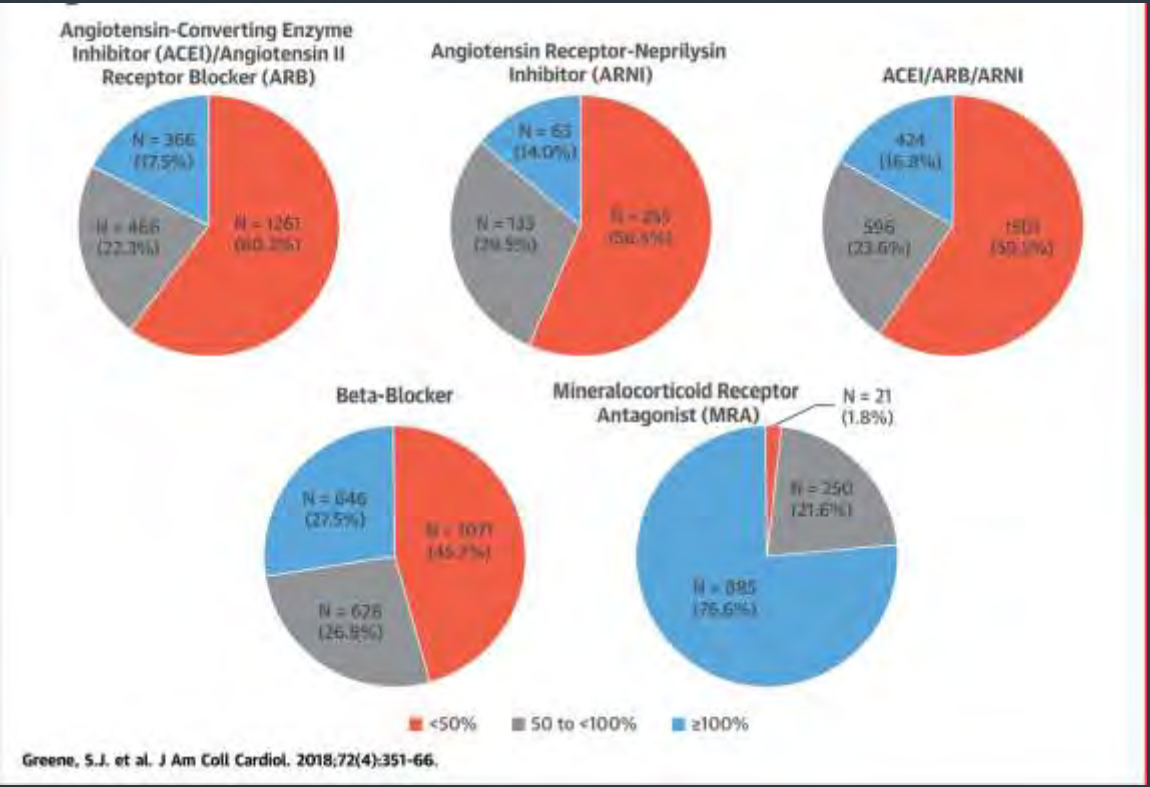
DAPA-HF
EMPEROR-REDUCED

CREDENCE
DAPA-CKD
EMPA-KIDNEY

*Meta-analysis showed 38% RRR in kidney disease progression

“The estimated cumulative effect of these 4 medications includes a 73% relative reduction in mortality over 2 years. Similarly, compared with conventional dual therapy with a beta-blocker and an angiotensin-converting enzyme inhibitor or angiotensin receptor blocker, treating a 55-year-old patient with quadruple therapy is projected to extend life by > 6 years.”

Green and Khan. JACC. VOL. 77, NO. 11. MARCH 23, 2021:1408–11



Greene, S.J. et al. J Am Coll Cardiol. 2018;72(4):351-66.

<25% received all 3 GDMT classes

When prescribed, most doses were <50% of target

Only 1% received target dose of all three classes

CHARM-HF Study

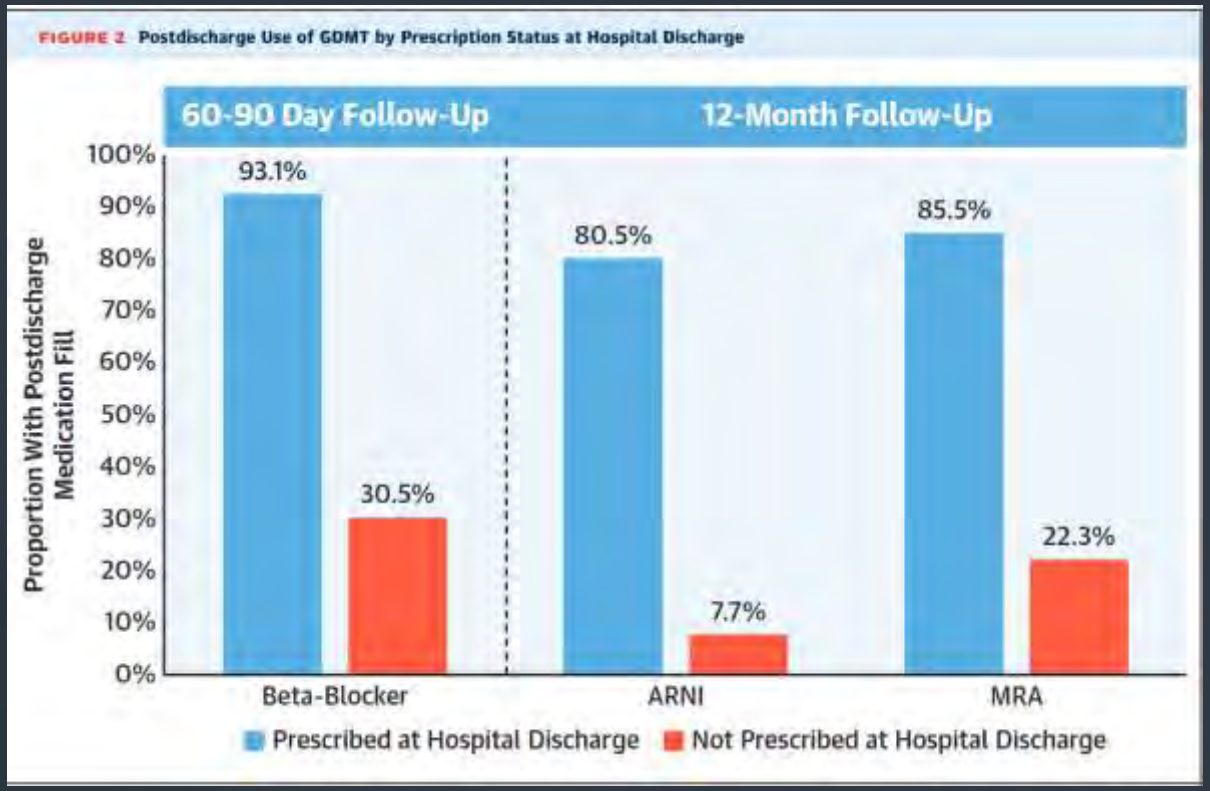


FIGURE 2 Postdischarge Use of GDMT by Prescription Status at Hospital Discharge
60-90 Day Follow-Up
12-Month Follow-Up
Proportion With Postdischarge Medication Fill
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
93.1%
30.5%
80.5%
7.7%
85.5%
22.3%
Beta-Blocker
ARNI
MRA
Prescribed at Hospital Discharge
Not Prescribed at Hospital Discharge

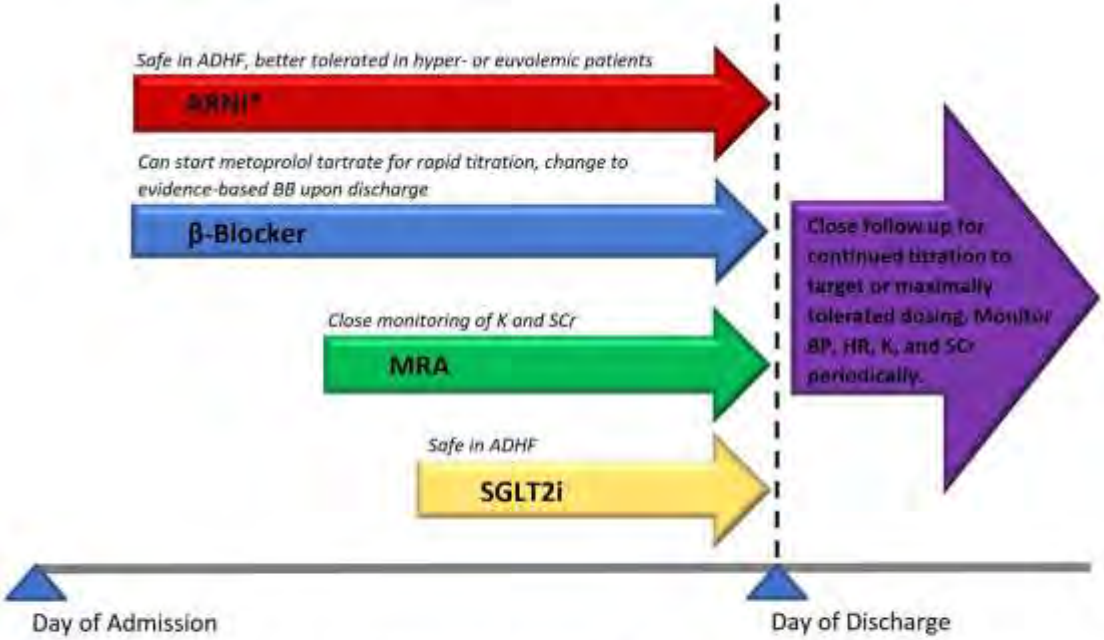


Figure 1. Inpatient GDMT Sequencing. *Courtesy of Schwann A, Riello R, Ahmad T*

* = ARNi is preferred if tolerated and affordable, but can consider ACEi/ARB therapy; ADHF = Acute decompensated heart failure; ARNi = Angiotensin receptor-neprilysin inhibitor; BB = β-blocker; BP = Blood pressure; HR = Heart rate; K = potassium; MRA = Mineralocorticoid receptor antagonist; SCr = Serum creatinine; SGLT2i = Sodium-glucose cotransporter 2 inhibitor

STRONG-HF

High intensity Care Group

1, 2, 3 and 6 weeks post hospital follow up

seen again at 90 days and 180 days

HICG

Lower re-hospitalization for HF

Lower all cause mortality

Improved QOL scores

*8% ARR of primary outcomes

*Results consistent across ALL LVEF levels

*No difference in side effect profile

*At 90 days, 36.4% in control group on full dose meds vs 0.4% in standard group

COR	LOE	RECOMMENDATIONS
1	B-NR	1. In patients with HFrEF requiring hospitalization, preexisting GDMT should be continued and optimized to improve outcomes, unless contraindicated (1-5).
1	B-NR	2. In patients experiencing mild decrease of renal function or asymptomatic reduction of blood pressure during HF hospitalization, diuresis and other GDMT should not routinely be discontinued (6-11).
1	B-NR	3. In patients with HFrEF, GDMT should be initiated during hospitalization after clinical stability is achieved (2,3,5,12-18).
1	B-NR	4. In patients with HFrEF, if discontinuation of GDMT is necessary during hospitalization, it should be reinitiated and further optimized as soon as possible (19-22).

So why are we hesitant to uptitrate GDMT aggressively?

Hypotension

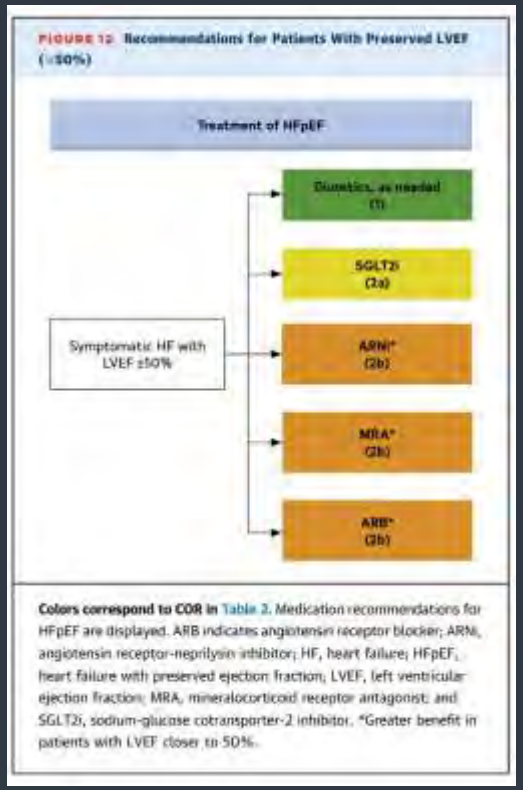
Renal dysfunction

Lack of time

Comfort level

Medication cost/coverage

HFpEF



Colors correspond to COR in Table 2. Medication recommendations for HFpEF are displayed. ARB indicates angiotensin receptor blocker; ARNi, angiotensin receptor-neprilysin inhibitor; HF, heart failure; HFpEF, heart failure with preserved ejection fraction; LVEF, left ventricular ejection fraction; MRA, mineralocorticoid receptor antagonist; and SGLT2i, sodium-glucose cotransporter-2 inhibitor. *Greater benefit in patients with LVEF closer to 50%.

COR	LOE	RECOMMENDATIONS
1	B-R	1. In patients with high-risk HF, particularly those with recurrent hospitalizations for HFrEF, referral to multidisciplinary HF disease management programs is recommended to reduce the risk of hospitalization (1-4).
1	B-NR	2. In patients hospitalized with worsening HF, patient-centered discharge instructions with a clear plan for transitional care should be provided before hospital discharge (5,6).
2a	B-NR	3. In patients hospitalized with worsening HF, participation in systems that allow benchmarking to performance measures is reasonable to increase use of evidence-based therapy, and to improve quality of care (7-10).
2a	B-NR	4. In patients being discharged after hospitalization for worsening HF, an early follow-up, generally within 7 days of hospital discharge, is reasonable to optimize care and reduce rehospitalization (11,12).

GLP-1 agonists

Semaglutide

- approved for chronic weight loss
  - BMI >30
  - BMI >27 and one major comorbidity

SELECT

- Reduced risk of MACE by 20%

Outpatient Monitoring Devices

Cardiomems

Champion and GUIDE-HF

Approved for Class II/III
- with/without hospitaliza
- elevated BNP
  - reduce hospitalization and improve symptoms

Cardiac Contractility Modulator

Approved for:

- NYHA III on optimal GDMT
- Not a CRT candidate
- LVEF 25-45%

Improvements in 6MWT, QOL, NYHA class

Others…

ICDs with OptiVol

Wearable defibrillators

External lung fluid monitors…

Thank You

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