PCNA

Heart Failure in 2026

New Therapies, New Recommendations, Next-Gen Nursing

April 9, 2026

Sara Severson APRN, CNP, DNP, AACC

1

PCNA

Sara Severson
ARPN, CNP, DNP, AACC

Cardiology NPPA Director
Heart Failure Clinic
Assistant Professor of Medicine
Mayo Clinic
Rochester, MN

2

DISCLOSURE OF RELEVANT FINANCIAL RELATIONSHIP(S) WITH INDUSTRY

- Nothing to disclose

REFERENCES TO OFF-LABEL USAGE(S) OF PHARMACEUTICALS OR INSTRUMENTS

- Nothing to disclose

3

Learning Objectives

- Identify key updates for the treatment of heart failure
- Explain recent pharmacologic advancements in the management of HFrEF and their clinical implications for nursing practice
- Evaluate emerging trends in heart failure management based on recent clinical trial data
- Demonstrate how to apply guideline-directed medical therapy (GDMT) through emerging technologies to optimize outcomes in patients with heart failure

4

PCNA
Preventive Cardiovascular Nurses Association

Heart Failure Epidemiology and Classifications

5

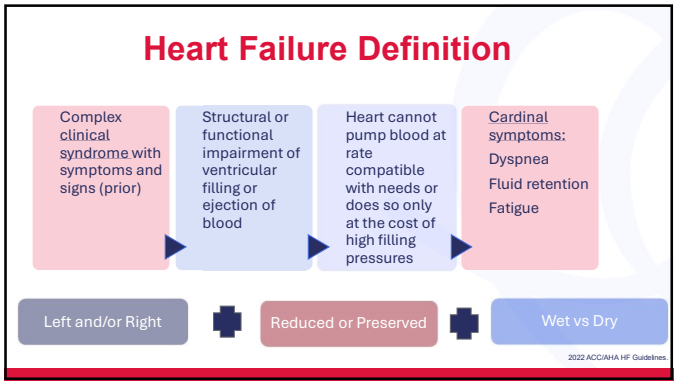
Why Does This Matter

EPIDEMIOLOGY

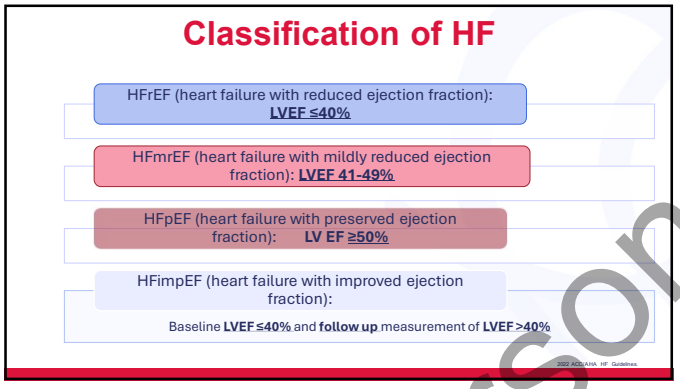
- 6.7 million Americans living with heart failure
- Expected to rise to 8.5 million Americans by 2030
- Over $30 billion spent annually on heart failure & rising
- ↓ HFrEF
- ↑ HFpEF
- Lifetime risk ↑ to 24%, age 50 or above

Bozkurt, et al., (2023). *Journal of Cardiac Failure*. 29: 1412-51

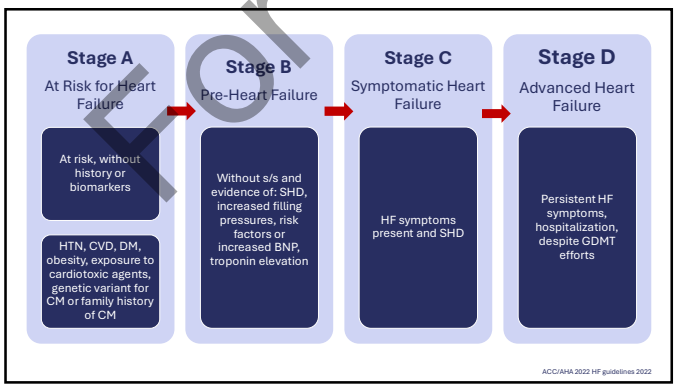
6



7



8



9

New York Heart Association Functional Class

NYHA Class	Symptoms*
I	No limitations of physical activity
II	Slight limitations of physical activity
III	Marked limitations of physical activity
IV	Unable to carry on physical activity without symptoms of HF, or symptoms of HF at rest

*Subjective and changes over time

10

Documentation

Left vs right or biventricular → Classify EF → HF Stage → NYHA class

11

PCNA

Key Heart Failure Treatment Updates

12

Key Treatment Updates

- Early initiation of quadruple GDMT
- SGLT2 inhibitors as foundational therapy
- ARNI preferred over ACEi/ARB
- Hospitalization as optimization opportunity
- Rapid titration vs. "wait and see"

13

Current HFrEF Therapies and Nursing Implications

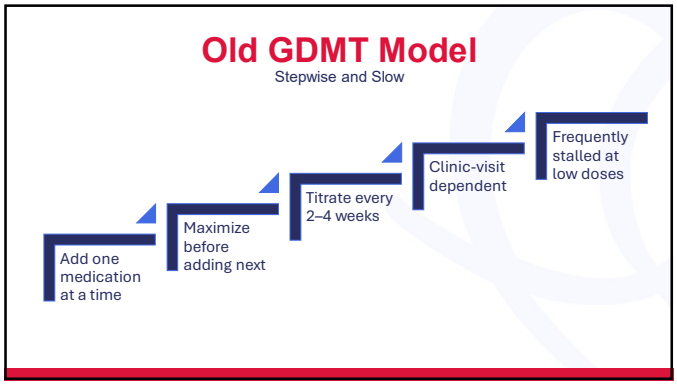
14

The Four Pillars

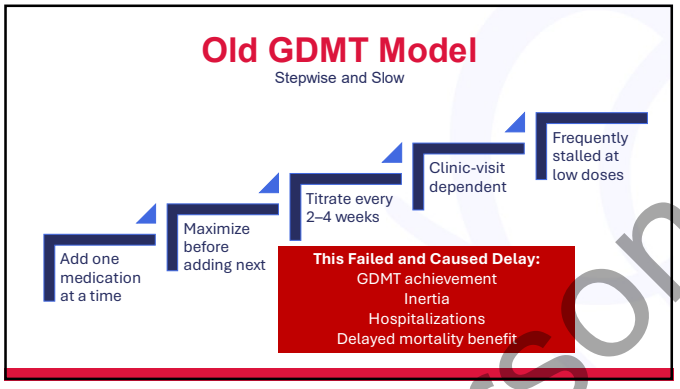
HFrEF

ARNI/ACE/ARB	Beta-Blocker	MRA	SGLT2 Inhibitor
Sacubitril-valsartan Lisinopril Enalapril Losartan Valsartan	Carvedilol Metoprolol Succinate Bisoprolol	Spironolactone Eplerenone	Dapagliflozin Empagliflozin

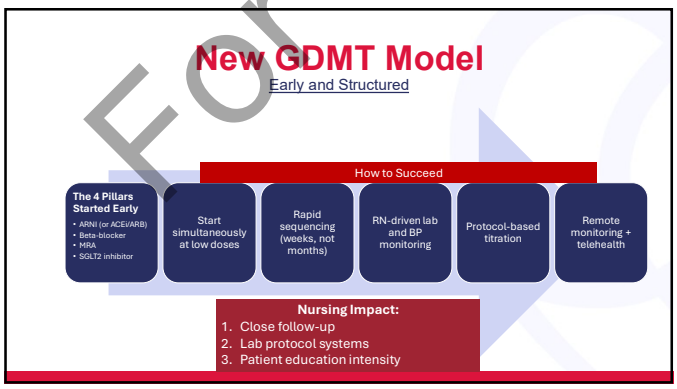
15



16



17



18

In-Hospital Initiation of Quadruple Medical Therapy for HFrEF

Hospitalized → Post-Discharge

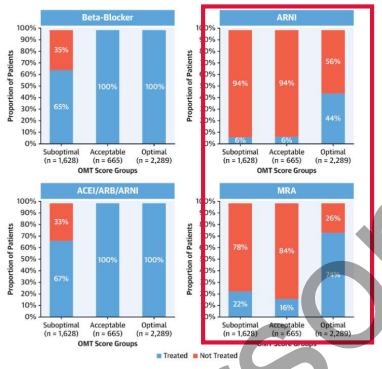
	Day 1-4	Days 7-14	Days 14-28	Days 21-42	Beyond
ARNI	Low starting doses Prioritize beta-blocker titration	Continue	Titrate, as tolerated	Titrate, as tolerated	• Maintenance / further optimization of quadruple therapy • Consideration of EP device therapies/ Mitraclip • Consideration of add-on medical therapies or advanced therapies, if refractory • Manage comorbidities
Beta-blocker		Titrate, as tolerated	Titrate, as tolerated	Titrate, as tolerated	
MRA		Continue	Titrate, as tolerated	Continue	
SGLT2i		Continue	Continue	Continue	
		Benefits of each Rx demonstrated within 30 days of initiation Cumulative benefits within 30 days (>75% relative risk reduction)			Focus on complete set of quadruple medical therapies being implemented

Greene, S.J., et al. (2022). *E Journal of HF, 24*(1), 227-229.

19

Despite outlined guidelines for GDMT

Remains suboptimal in achieving



Rao, V., et al. (2024). *JACC. Heart Failure, 12*(11), 1862-1875.

20

Barriers We See in Practice

1. Hypotension fear
2. Renal anxiety
3. Insurance delays
4. Clinical inertia
5. Adherence

Next-gen nursing = removing inertia

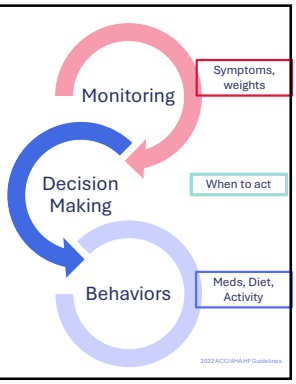
Breaking down barriers through education

21

What is self care?

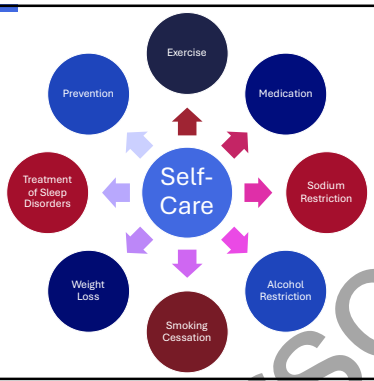
- Encompasses non-medical management
- Includes ***both*** adherence and health maintenance behaviors

Self-care ≠ adherence



22

Self care
Stage C & D



23

Genetic Testing

- Class 1a recommendation
- 3-generation family history
- Expanded cardiomyopathy gene panels
- Improved variant classification databases
- Greater access to genetic counselors

Earlier diagnosis = Early/better treatment = Saves lives

Why This Matters:
Many 'idiopathic DCM' cases are familial cardiomyopathy

24

More Precise Risk Stratification For:	Nursing Implications:
1. Sudden cardiac death 2. Device candidacy 3. Early GDMT initiation	1. Obtaining and updating family history 2. Identifying red flags for inherited disease 3. Educating families about screening 4. Supporting psychosocial impact of genetic results 5. Coordinating multidisciplinary care

25

PCNA

Evaluate Emerging Heart Failure Trial Trends

26

New Era of HF Management

- SGLT2 inhibitors across all EF ranges
- GLP-1
- GDMT strategies
- Phenotyping
- AI-driven risk prediction & monitoring

27

Trials That Changed Practice For Medical Therapy

- EMPEROR-Reduced & EMPEROR-Preserved
- DAPA-HF & DELIVER
- PARADIGM-HF
- PIONEER-HF
- STRONG-HF
- TRED-HF

28

Trials That Changed Practice For Medical Therapy

- Composite Key Findings:
  - Early mortality curves separate quickly
  - Rapid uptitration safe and effective in all patients even after HFH
  - Delays cost lives
  - Lifelong GDMT

29

SGLT-2 Inhibitors Across All EF Ranges

- **EMPEROR-Reduced & EMPEROR-Preserved**
  - Empagliflozin
  - Showed benefit in both HFrEF ***and*** HFpEF for combined CV death and hospitalization
- **DAPA-HF & DELIVER**
  - Dapagliflozin
  - Demonstrated benefit in CV morality and all mortality across all EF spectrums

30

GLP-1 and HF

- STEP-HFpEF
- Obese patients with HFpEF
- Semaglutide 2.4 mg weekly
- **Key Findings:**
  - Significant improvement in KCCQ symptom score
  - Greater weight reduction
  - Improved 6-minute walk distance
  - Fewer HF-related events

First major trial -- improved symptoms and functional status in HFpEF – not just glucose control

Kosiborod, M., et al., (2023). *NEJM, 389*(12), 1069-1084.

31

Combination & Sequencing Strategies

- **PIONEER-HF[1] and STRONG-HF[2]**
  - Early initiation of GDMT
  - Rapid titration improves symptoms, NT-pro BNP, HFH
- **TRED-HF[3]**
  - Recovery ≠ disease resolution
  - Demonstrated need for lifelong GDMT

1. Velazquez, E. et al., (2019). *NEJM, 380*(6), 539-548
2. Mebazaa, A., et al., (2023). *Lancet, 402*(10357), 1938-1952
3. Halliday, B. et al., (2019). *Lancet, 393*(10175), 61-73

32

Phenotype-Targeted Therapy

- **HFpEF Is Not One Disease**
  - Distinct phenotypes respond differently to therapy
  - *TOPCAT[1]* & *PARAGON-HF[2]* subgroup analyses support decreased HFH (spironolactone and sacubitril-valsartan)
- **Metabolic HF Phenotype**
  - Obesity-driven HFpEF responds to metabolic therapy
  - STEP-HFpEF

1. Pfeffer, M. et al., (2015). *Circulation, 131*((1), 34-42.
2. Vaduganathan, M. et al., (2023). *EHJ, 44*(31), 2982-2993.

33

AI/Remote Monitoring & Digital Interventions

- **Wearables and implantable sensors**
  - Tied to predictive modeling
  - Pulmonary artery pressure sensors
  - Mobile health apps
- **LINK-HF**[1] highlight noninvasive *predictive analytics*
- **AI-ECG**[2, 3]
  - HF detection
  - Risk assessment
    - atrial fibrillation, aortic stenosis, amyloid

1. Stehlik, J., et al. (2020). *Circulation. HF*, *13*(3).
2. Yao, X., et al., (2021). *Nature Medicine*, *27*(5), 815-819.
3. Attia, Z., et al., (2019). *Nature Medicine*, *25*(1), 70-74.

34

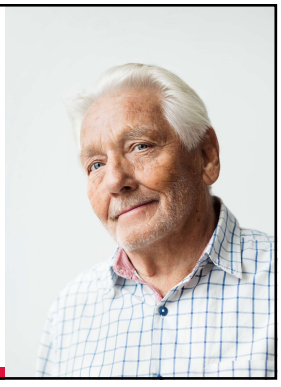
PCNA
Preventive Cardiovascular Nurses Association

GDMT Using Emerging Technologies

35

Mr. Smith
72 y/o Male

- Recent acute on chronic left ventricular systolic heart failure, EF 28%
- Stage C, NYHA class 3 on admission
- Stopped meds 2 months ago
- Diuresed 13 lbs
- Creatinine at discharge 1.8 (baseline 1.3) and potassium 4.7



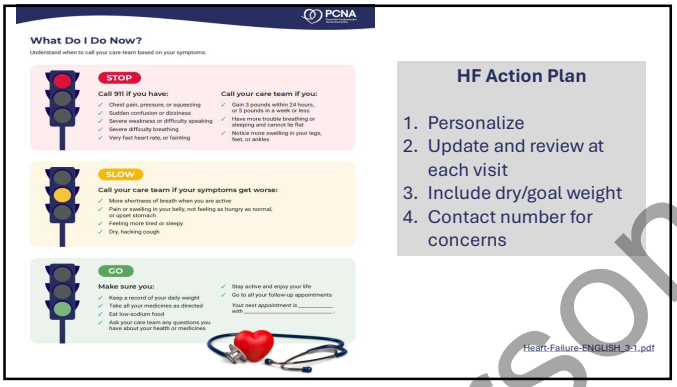
36

Mr. Smith

72 y/o Male

- Establish in local HF clinic
- In person f/u scheduled 12 days
- Discharge medications:
  - Sacubitril-valsartan 24-26 mg BID
  - Metoprolol succinate 50 mg QD
  - Spironolactone 12.5 mg daily
  - Empagliflozin hold d/t AKI
  - Furosemide 40 mg daily
- DC weight 243 lbs
- Discharge plan:
  - Smartwatch for HR and activity trends
  - Bluetooth scale and BP cuff
  - HF action plan
  - Patient portal
  - RN virtual follow-up within 5 days
- Goal = GDMT optimization

37



HF Action Plan

1. Personalize
2. Update and review at each visit
3. Include dry/goal weight
4. Contact number for concerns

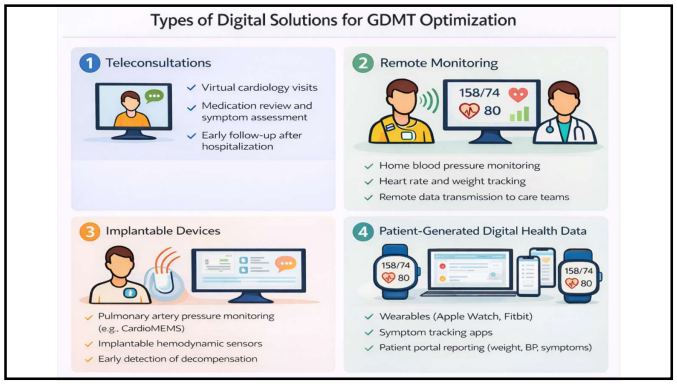
38

Why Digital Tools In Heart Failure?

- 20% readmitted within 30 days
- Congestion develops days-weeks before symptoms
- Traditional monitoring often too late

Goal:
Detect decompensation earlier → intervene sooner → prevent hospitalization

39



40

Mr. Smith

72 y/o Male

- **Technology signals:** rising HR intermittently, declining activity, weight gain on Bluetooth scale
- **Patient symptoms:** dyspnea, fatigue, lightheadedness
- **Clinical:** BP 102/64, weight 249 lbs (↑ 6 lbs)
- **Scheduled Labs:** K^+ 5.1, creatinine 1.2

- Virtual RN follow-up visit
  - Medication review and symptom assessment
- Remote monitoring data reviewed
  - Holter ordered
  - PAF identified – ATC started
- Lab monitoring integrated in EMR
  - Potassium and renal function reviewed for GDMT

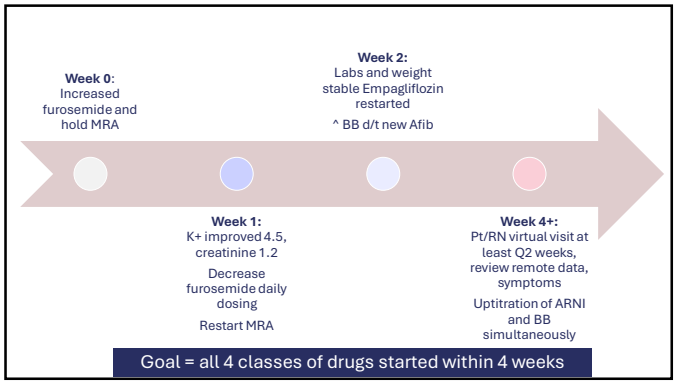
41

Key Questions:

1. Dizzy when standing or just seeing low numbers? Do you notice if you are dizzy when your heart rate is fast?
2. Are you checking your weight consistently each day (time, clothes, etc)
3. Missed any doses of medication? How are you setting up your medications?
4. What did you eat the last 2 days for all your meals?
5. Any new medications, OTC, supplements?

Plan: Increase in diuretic, hold MRA, lab recheck in 1 week
Key: GDMT requires close lab monitoring, close hospital follow-up, decompensated - no BB increase

42



43

Implications For Nursing Practice

Technology improves outcomes when:

1. Review alerts consistently
2. Use diuretic protocols
3. Adjust GDMT
4. Identify adherence issues
5. Escalate care appropriately

44

Wearables

More Than Fitness Trackers

Smart Watch heart rate trends

- AF detection notifications
- Heart rate variability
- Activity trends as early decompensation signal

Clinical Application:

- Rising resting HR → early HF signal
- Declining activity → worsening symptoms
- Arrhythmia alerts → earlier evaluation

45

Patient Generated Data At Home

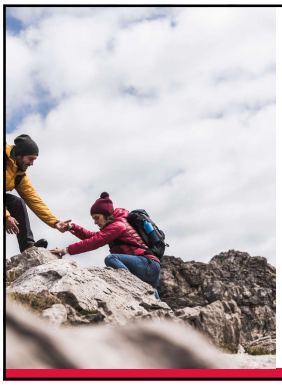
Tools

- Bluetooth scales
- Home BP cuffs
- Symptom logs
- Medication trackers
- Daily weight documentation
- PA monitor sensors
- Patient portal

What This Enables

- Early diuretic adjustment
- Rapid sequencing of GDMT
- Avoidance of hospitalization

46



Real World Considerations

- Data overload
- Alert fatigue
- Infrastructure required
- Workflow and staffing needed
- Patient selection matters

? Bandwidth to answer messages

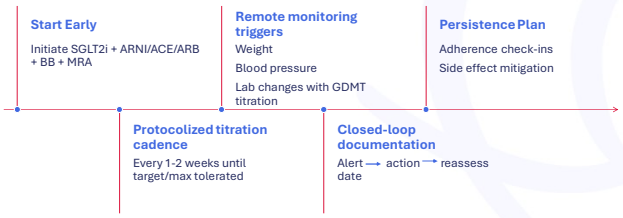
47

Designing a Successful Remote Monitoring Program

Right Patient	Right Signal	Right Response
• Recent hospitalization • NYHA II-III • Recurrent congestion • Reliable engagement	• Hemodynamics preferred • Multiparameter better than weight alone	• Defined RN/Provider roles • Titration protocols • Rapid escalation pathway • Alert fatigue prevention

48

Nursing Playbook:
Tech-Enabled GDMT



49

Summary and Key Takeaways

- Heart Failure Treatment has evolved rapidly
- Pharmacologic advances require clinical intentionality
- Emerging trials are data-driven
- Technology enhances GDMT – Teams deliver it

50

PCNA
Preventive Cardiovascular Nurses Association

Thank You!

51

References

- Attia, Z. I., Kapa, S., Lopez-Jimenez, F., McKie, P. M., Ladewig, D. J., Satam, G., Pellikka, P. A., Enriquez-Sarano, M., Noseworthy, P. A., Munger, T. M., Asirvatham, S. J., Scott, C. G., Carter, R. E., & Friedman, P. A. (2019). Screening for cardiac contractile dysfunction using an artificial intelligence-enabled electrocardiogram. *Nature medicine*, *25*(1), 70–74.
- Greene, S. J., Butler, J., & Fonarow, G. C. (2022). In-hospital initiation of quadruple medical therapy for heart failure: making the post-discharge vulnerable phase far less vulnerable. *European journal of heart failure*, *24*(1), 227–229.
- Halliday, B. P., Wassall, R., Lota, A. S., Khalique, Z., Gregson, J., Newsome, S., Jackson, R., Rahneva, T., Wage, R., Smith, G., Venneri, L., Tayal, U., Auger, D., Midwinter, W., Whiffin, N., Rajani, R., Dungu, J. N., Pantazis, A., Cook, S. A., Ware, J. S., … Prasad, S. K. (2019). Withdrawal of pharmacological treatment for heart failure in patients with recovered dilated cardiomyopathy (TRED-HF): an open-label, pilot, randomised trial. *Lancet (London, England)*, *393*(10166), 61–73.
- Heidenreich PA, Bozkurt B, Aguilar D, Allen LA, Byun JJ, Colvin MM, Deswal A, Drazner MH, Dunlay SM, Evers LR, Fang JC, Fedson SE, Fonarow GC, Hayek SS, Hernandez AF, Khazanie P, Kittleson MM, Lee CS, Link MS, Milano CA, Nnacheta LC, Sandhu AT, Stevenson LW, Vardeny O, Vest AR, Yancy CW; ACC/AHA Joint Committee Members. 2022 AHA/ACC/HFSA Guideline for the Management of Heart Failure: A Report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines. Circulation. 2022 May 3;145(18):e895-e1032.
- Kosiborod, M. N., Abildstrøm, S. Z., Borlaug, B. A., Butler, J., Rasmussen, S., Davies, M., Hovingh, G. K., Kitzman, D. W., Lindegaard, M. L., Møller, D. V., Shah, S. J., Treppendahl, M. B., Verma, S., Abhayaratna, W., Ahmed, F. Z., Chopra, V., Ezekowitz, J., Fu, M., Ito, H., Lelonek, M., … STEP-HFpEF Trial Committees and Investigators (2023). Semaglutide in Patients with Heart Failure with Preserved Ejection Fraction and Obesity. *The New England journal of medicine*, *389*(12), 1069–1084.

52

References

- McMurray, J. J., Packer, M., Desai, A. S., Gong, J., Lefkowitz, M. P., Rizkala, A. R., Rouleau, J. L., Shi, V. C., Solomon, S. D., Swedberg, K., Zile, M. R., & PARADIGM-HF Investigators and Committees (2014). Angiotensin-neprilysin inhibition versus enalapril in heart failure. *The New England journal of medicine*, *371*(11), 993–1004.
- McMurray, J. J. V., Solomon, S. D., Inzucchi, S. E., Køber, L., Kosiborod, M. N., Martinez, F. A., Ponikowski, P., Sabatine, M. S., Anand, I. S., Bělohlávek, J., Böhm, M., Chiang, C. E., Chopra, V. K., de Boer, R. A., Desai, A. S., Diez, M., Drozdz, J., Dukát, A., Ge, J., Howlett, J. G., … DAPA-HF Trial Committees and Investigators (2019). Dapagliflozin in Patients with Heart Failure and Reduced Ejection Fraction. *The New England journal of medicine*, *381*(21), 1995–2008.
- Mebazaa, A., Davison, B., Chioncel, O., Cohen-Solal, A., Diaz, R., Filippatos, G., Metra, M., Ponikowski, P., Sliwa, K., Voors, A. A., Edwards, C., Novosadova, M., Takagi, K., Damasceno, A., Saidu, H., Gayat, E., Pang, P. S., Celutkiene, J., & Cotter, G. (2022). Safety, tolerability and efficacy of up-titration of guideline-directed medical therapies for acute heart failure (STRONG-HF): a multinational, open-label, randomised, trial. *Lancet (London, England)*, *400*(10367), 1938–1952.
- Pfeffer, M. A., Claggett, B., Assmann, S. F., Boineau, R., Anand, I. S., Clausell, N., Desai, A. S., Diaz, R., Fleg, J. L., Gordeev, I., Heitner, J. F., Lewis, E. F., O'Meara, E., Rouleau, J. L., Probstfield, J. L., Shaburishvili, T., Shah, S. J., Solomon, S. D., Sweitzer, N. K., McKinlay, S. M., … Pitt, B. (2015). Regional variation in patients and outcomes in the Treatment of Preserved Cardiac Function Heart Failure With an Aldosterone Antagonist (TOPCAT) trial. *Circulation*, *131*(1), 34–42.

53

References

- Rao, V. N., Hellkamp, A. S., Thomas, L. E., Fonarow, G. C., Fiuzat, M., O'Connor, C. M., Spertus, J. A., Desai, A. S., Albert, N. M., Butler, J., Hernandez, A. F., & DeVore, A. D. (2024). Optimal Medical Therapy and Outcomes Among Patients With Chronic Heart Failure With Reduced Ejection Fraction. *JACC. Heart failure*, *12*(11), 1862–1875.
- Packer, M., Anker, S. D., Butler, J., Filippatos, G., Pocock, S. J., Carson, P., Januzzi, J., Verma, S., Tsutsui, H., Brueckmann, M., Jamal, W., Kimura, K., Schnee, J., Zeller, C., Cotton, D., Bocchi, E., Böhm, M., Choi, D. J., Chopra, V., Chuquiure, E., … EMPEROR-Reduced Trial Investigators (2020). Cardiovascular and Renal Outcomes with Empagliflozin in Heart Failure. *The New England journal of medicine*, *383*(15), 1413–1424.
- Vaduganathan, M., Mentz, R. J., Claggett, B. L., Miao, Z. M., Kulac, I. J., Ward, J. H., Hernandez, A. F., Morrow, D. A., Starling, R. C., Velazquez, E. J., Williamson, K. M., Desai, A. S., Zieroth, S., Lefkowitz, M., McMurray, J. J. V., Braunwald, E., & Solomon, S. D. (2023). Sacubitril/valsartan in heart failure with mildly reduced or preserved ejection fraction: a pre-specified participant-level pooled analysis of PARAGLIDE-HF and PARAGON-HF. *European heart journal*, *44*(31), 2982–2993.
- Velazquez, E. J., Morrow, D. A., DeVore, A. D., Duffy, C. I., Ambrosy, A. P., McCague, K., Rocha, R., Braunwald, E., & PIONEER-HF Investigators (2019). Angiotensin-Neprilysin Inhibition in Acute Decompensated Heart Failure. *The New England journal of medicine*, *380*(6), 539–548.
- Yao, X., Rushlow, D. R., Inselman, J. W., McCoy, R. G., Thacher, T. D., Behnken, E. M., Bernard, M. E., Rosas, S. L., Akfaly, A., Misra, A., Molling, P. E., Krien, J. S., Foss, R. M., Barry, B. A., Siontis, K. C., Kapa, S., Pellikka, P. A., Lopez-Jimenez, F., Attia, Z. I., Shah, N. D., … Noseworthy, P. A. (2021). Artificial intelligence-enabled electrocardiograms for identification of patients with low ejection fraction: a pragmatic, randomized clinical trial. *Nature medicine*, *27*(5), 815–819.

54

PCNA

Preventive Cardiovascular Nurses Association

PCNA

Heart Failure Resources

55

HEART HEALTHY TOOLBOX

Lifestyle Changes for Everyone

Heart Healthy Toolbox – PCNA

56

PCNA

What Do I Do Now?

Understand when to call your care team based on your symptoms.

STOP

Call 911 if you have:

- Chest pain, pressure, or squeezing
- Sudden confusion or dizziness
- Severe weakness or difficulty speaking
- Severe difficulty breathing
- Very fast heart rate, or fainting

Call your care team if you:

- Gain 3 pounds within 24 hours, or 5 pounds in a week or less
- Have more trouble breathing or sleeping and cannot lie flat
- Notice more swelling in your legs, feet, or ankles

SLOW

Call your care team if your symptoms get worse:

- More shortness of breath when you are active
- Pain or swelling in your belly, not feeling as hungry as normal, or upset stomach
- Feeling more tired or sleepy
- Dry, hacking cough

GO

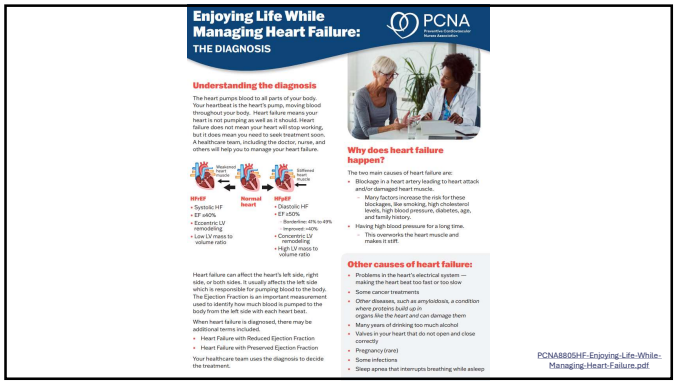
Make sure you:

- Keep a record of your daily weight
- Take all your medicines as directed
- Eat low-sodium food
- Ask your care team any questions you have about your health or medicines
- Stay active and enjoy your life
- Go to all your follow-up appointments

Your next appointment is _____ with _____

Heart-Failure-ENGLISH_3-1.pdf

57



Enjoying Life While Managing Heart Failure:
THE DIAGNOSIS

PCNA
Preventive Cardiovascular Nurses Association

Understanding the diagnosis

The heart pumps blood to all parts of your body. Your heartbeat is the heart's pump, moving blood throughout your body. Heart failure means your heart is not pumping as well as it should. Heart failure does not mean your heart will stop working, but it does mean you need to seek treatment soon. A healthcare team, including the doctor, nurse, and others will help you to manage your heart failure.

Weakened heart muscle | Normal heart | Stiffened heart muscle

HFrEF
- Systolic HF
- EF ≤40%
- Eccentric LV remodeling
- Low LV mass to volume ratio

HFpEF
- Diastolic HF
- EF ≥50%
  - Borderline: 41% to 49%
  - Improved: >40%
- Concentric LV remodeling
- High LV mass to volume ratio

Heart failure can affect the heart's left side, right side, or both sides. It usually affects the left side which is responsible for pumping blood to the body. The Ejection Fraction is an important measurement used to identify how much blood is pumped to the body from the left side with each heart beat.

When heart failure is diagnosed, there may be additional terms included.
- Heart Failure with Reduced Ejection Fraction
- Heart Failure with Preserved Ejection Fraction

Your healthcare team uses the diagnosis to decide the treatment.

Why does heart failure happen?

The two main causes of heart failure are:
- Blockage in a heart artery leading to heart attack and/or damaged heart muscle.
  - Many factors increase the risk for these blockages, like smoking, high cholesterol levels, high blood pressure, diabetes, age, and family history.
- Having high blood pressure for a long time.
  - This overworks the heart muscle and makes it stiff.

Other causes of heart failure:
- Problems in the heart's electrical system — making the heart beat too fast or too slow
- Some cancer treatments
- Other diseases, such as amyloidosis, a condition where proteins build up in organs like the heart and can damage them
- Many years of drinking too much alcohol
- Valves in your heart that do not open and close correctly
- Pregnancy (rare)
- Some infections
- Sleep apnea that interrupts breathing while asleep

PCNA8805HF-Enjoying-Life-While-Managing-Heart-Failure.pdf

58

PCNA
Preventive Cardiovascular Nurses Association

Addendum Slides

59

Medical Therapy

	MECHANISM	KEY CLINICAL BENEFITS	GUIDELINE POSITION	NURSING GUIDANCE/PEARLS
Beta-Blockers	β1-adrenergic blockade Reduces sympathic activation ↓ Heart rate ↓ Myocardial oxygen demand	↓ All-cause mortality (HFrEF 30-35%) ↓ HF hospitalizations Improves LVEF Reduces sudden cardiac death Improves symptoms over time	Class I for HFrEF Initiate when euvolemic Titrate to target or maximally tolerated dose	Start low, go slow Monitor HR and BP Expect mild initial fatigue Watch for bradycardia Use in caution in acute decompensation
Loop Diuretics	↑ Promote natriuresis & diuresis ↓ Preload Rapid relief of congestion	Improve dyspnea & edema ↓ Pulmonary congestion ↓ HF hospitalizations related to volume overload Rapid symptom improvement	Class I for HFrEF Indicated for patients with volume overload Dose individualized based on renal function & response Used across EF spectrum	Assess weights & volume status Monitor electrolytes Education on dehydration & weight Watch for hypotension, AKI, hypokalemia

60

Medical Therapy

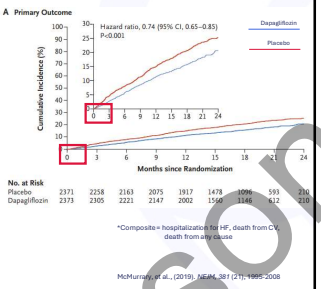
	MECHANISM	KEY CLINICAL BENEFITS	GUIDELINE POSITION	NURSING GUIDANCE/PEARLS
SGLT 2 inhibitors	Natriuresis & osmotic diuresis Reduces preload/afterload	↓HF Hospitalization (25-30%) ↓CV Morality (HFrEF) Renal protection Effective across EF spectrum	Class I for HFrEF Class IIa for HFmrEF and HFpEF Initiative early – independent of diabetes	Assess volumes status Educate on genital infections No titration required Monitor BP (hypotension uncommon)
ARN-I	RASS blockade Promotes natriuretic peptides	↓All cause mortality ↓HF hospitalization ↓NT-Pro BNP	Class I for HFrEF Preferred over ACE/ARB Transition ACE – 36 hr washout	Monitor BP (hypotension common) Dizziness in elderly Creatinine & potassium ACE washout
MRAs	Aldosterone blockade Anti-fibrotic effects	↓Mortality (HFrEF) ↓Hospitalization Improves remodeling	Class I for HFrEF Class IIb for HFpEF	Close potassium monitoring Avoid if K>5 or eGFR <30 Gynecomastia

61

DAPA-HF

Dapagliflozin added to GDMT

- **Population:**
  - 4,744 HFrEF patients (NYHA II–IV)
  - With & without Type 2 Diabetes
- **Key Outcomes:**
  - 26% ↓ in relative risk
  - 15% ↓ in risk all-cause mortality
  - Improvement in KCCQ score
- **Clinical Impact:**
  - Benefit independent of DM
  - New foundational therapy



*Composite = hospitalization for HF, death from CV, death from any cause

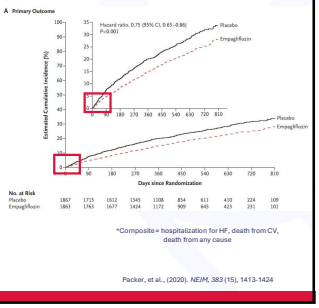
McMurray, et al., (2019). *NEJM, 381* (21), 1995-2008

62

Emperor-Reduced

Empagliflozin 10 mg + GDMT

- **Population:**
  - 3,730 HFrEF patients
  - With & without Type 2 Diabetes
- **Key Outcomes:**
  - 25% ↓ in relative risk
  - 30% ↓ HF hospitalization
  - Slower decline in eGFR
- **Clinical Impact:**
  - Provides cardiorenal protection
  - Foundational therapy



*Composite = hospitalization for HF, death from CV, death from any cause

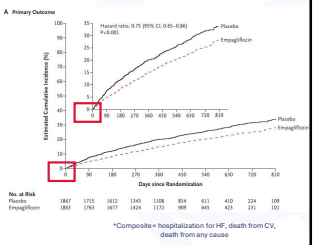
Packer, et al., (2020). *NEJM, 383* (15), 1413-1424

63

PARADIGM-HF

Sacubitril/valsartan vs enalapril

- **Population:**
  - 8,442 HFrEF patients
  - Median follow up: 27 months
- **Key Outcomes:**
  - 20% ↓ in CV death or HF hospitalization
  - 16% ↓ all-cause mortality
  - 21% ↓ HF hospitalization



*Composite = hospitalization for HF, death from CV, death from any cause

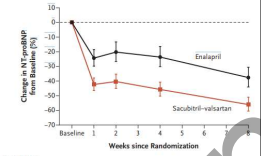
McMurray, et al., (2014). *NEJM, 371* (11), 993-1004

64

PIONEER-HF

Sacubitril/valsartan vs enalapril

- **Population:**
  - 881 hospitalized HFrEF patients (EF <40%)
  - Initiated after hemodynamic stabilization
- **Key Findings:**
  - Greater NT-Pro BNP reduction with sacubitril/valsartan
    - (-46.7% vs -25.3%)
  - Lower HF rehospitalization at 8 weeks
    - (8% vs 13.8%)
- **Clinical Impact:**
  - ARNi safely started during hospitalization
  - Earlier GDMT optimization
  - Hospitalization = treatment opportunity



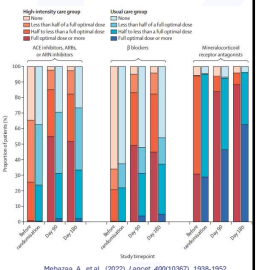
Velazquez, E. et al., (2019). *NEJM, 380*(6), 539-548

65

STRONG-HF

High intensity vs usual GDMT after HFH

- **Population:**
  - 1,078 hospitalized acute HF (all EFs)
  - Discharged on suboptimal GDMT
- **Key Outcomes:**
  - 15.2% (high-intensity care) vs 23.3% (usual care)
  - 34% RRR
  - Improved NT-proBNP and symptoms
- **Impact on Practice:**
  - Rapid GDMT up-titration safe after HFH



Mebazaa, A., et al., (2022). *Lancet, 400*(10367), 1938-1952

66

TRED-HF

Randomized to phased GDMT withdrawal or continuation

- **Population:**
  - Recovered dilated cardiomyopathy (DM)
  - Normal NT-ProBNP <250 ng/L and asymptomatic
- **Key Findings:**
  - 44% relapsed GDMT withdrawal
  - 0% with continued therapy
  - Most occurred within 8 weeks after stopping therapy
- **Clinical Impact:**
  - Recovery ≠ disease resolution
  - GDMT should be continued lifelong

Halliday, B. et al., (2019). *Lancet*, 393(10166), 61-73

67