SUMMARY OF CLINICAL GUIDELINE	
Disease or Condition	Congestive Heart Failure for Primary Care – HFrEF and HFpEF
Guideline Title:	Heart Failure Management
Guideline Source:	American College of Cardiology, American Heart Association, Heart Failure Society of America
Guideline Link	2017 ACC/AHA/HFSA Focused Update Guideline for the Management of Heart Failure J Am Coll Cardiol 2017; 70(6);776-803
Guideline Original Date	2013 ACCF/AHA Guideline for the Management of Heart Failure
Guideline Most Recent Revision Date	2017
CHC Review Date(s)	Guidelines and Components in Summary were reviewed and approved in July, 2019 by a Congestive Heart Failure Workgroup. Recommendations for adoption referred to the Board of Managers for approval on 7/18/2019. Guideline Approval/Update/Revision Meetings: • Approved: July 18, 2019 • Will be reviewed with updates or at least every two years.
Rationale	Despite GDMT, heart failure continues to grow exponentially without change in mortality rates. Ultimate prevention of heart failure will decrease the absolute number of new cases. Early diagnosis and management of co-morbidities will stop the progression of heart failure, thereby decreasing early mortality rates.
Guideline Summary	Previous updates provided pharmacological management of heart failure. The 2017 focused update addresses strategies for prevention, biomarker use, and managing co-morbidities, hypertension, sleep disordered breathing, and iron deficiency.
Implementation Components **Identify component(s) of the guideline CHC should adopt.**	
Class I/Stage A At Risk for HF	Outpatient Treatment of Congestive Heart Failure… HF Prevention (more aggressive B/P control and Screening): • Identification of high risk patients High risk factors includes one or more: DM, HTN, HL, BMI >30, coronary, cerebral or peripheral vascular disease, arrhythmia requiring treatment, moderate to severe valvular disease. • New B/P targets <130/80 (SBP <130 mmHg) • BNP screening to prompt referral to cardiovascular specialist (Class IIa) In patients with HTN with increased risk of HF: B/P <130/80 should be optimal.
Class II/Stage B	**HFrEF/HFpEF** **Biomarkers**: • **For ambulatory** with new onset dyspnea: BNP or NT-proBNP for diagnosis (class I) • For acute dyspnea **in the ED**: • BNP or NT-proBNP for diagnosis (class I)

	• Other biomarkers of myocardial injury or fibrosis for prognosis (Class IIb) • BNP or NT-proBNP for prognosis (class I) • Other biomarkers of myocardial injury or fibrosis for prognosis (Class IIb) **Care/Therapies:** • HFrEF/HFpEF Class II-IV with suspicion of Sleep Disordered Breathing (SDB) or excessive daytime sleepiness: A formal Sleep Assessment to distinguish obstructive vs central sleep apnea is reasonable (Class IIa) • With CV disease and Obstructive Sleep Apnea (OSA), CPAP may be reasonable to improve sleep apnea and reduce daytime sleepiness (Class IIb) • With HF and central sleep apnea (CSA), refer to recent studies for clinical decision. **HFrEF Care/Therapies**: • B/P management: Guideline directed medical therapy (GDMT) titrated to attain B/P of less than 130/80 (Class I) • HFrEF ACC Core/Adjunct medication therapies (unless contraindicated): • ACEI or ARB • Beta Blocker: for Class I-IV, • MCR antagonist • Loop Diuretic • ARNI: post GDMT targets; if on ACEI, hold for 36 hour washout period before ARNI is started; if on ARB, stop ARB and begin ARNI as prescribed • Ivabradine (NSR with HR>70 on max tolerated GDMT • Direct Acting Vasodilator • Cardiac Glycoside • Nondihydropyridine calcium channel blockers are not recommended (Class III) • **NEW**: Managing Iron Deficiency Outpatient IV iron infusions are reasonable for persistently symptomatic patients to improve functional capacity and quality of life (Class IIb) • DO NOT use erythropoietin-stimulating agents in HFrEF and anemia (Class III) **HFpEF Care/Therapies:** ○ **New: may consider aldosterone receptor antagonist (Class IIb)** ○ **New: may consider Angiotensin II receptor blockers (Class IIb)** ○ **Not recommended: routine use of nitrates or phosphodiesterase-5 inhibitors is INEFFECTIVE (Class III)**
Class III/Stage C	**HFrEF/HFpEF:** **Biomarkers**: • BNP or NT-proBNP for prognosis (class I) • For acute dyspnea **in the ED**: • BNP or NT-proBNP for diagnosis (class I) • Other biomarkers of myocardial injury or fibrosis for prognosis (Class IIb) • For hospitalized ADHF: BNP or NT-proBNP and cardiac troponin for prognosis (class I)

- Other biomarkers of myocardial injury or fibrosis for prognosis (Class IIb)

Care/Therapies:

- **NEW: SBP target** of <130 mmHg
- HFrEF/HFpEF Class II-IV with suspicion of **Sleep Disordered Breathing** (SDB) or excessive daytime sleepiness: A formal Sleep Assessment to distinguish obstructive vs central sleep apnea is reasonable (Class IIa)
- With CV disease and Obstructive Sleep Apnea (OSA), CPAP may be reasonable to improve sleep apnea and reduce daytime sleepiness (Class IIb)
- With HF and central sleep apnea (CSA), refer to recent studies for clinical decision.
- Device therapy (CRT-P, CRT-D, ICD)

HFrEF Care Therapies:

- **B/P management**: Guideline directed medical therapy (GDMT) titrated to attain B/P of less than 130/80 (Class I)
- HFrEF ACC Core/Adjunct medication therapies (unless contraindicated):
- ACEI or ARB
- Beta Blocker: for Class I-IV,
- MCR antagonist
- Loop Diuretic
- ARNI: post GDMT targets; if on ACEI, hold for 36 hour washout period before ARNI is started; if on ARB, stop ARB and begin ARNI as prescribed
- Ivabradine (I_f channel inhibitor) (NSR with HR>70 on max tolerated GDMT
- Direct Acting Vasodilator (hydralazine/isosorbide)
- Cardiac Glycoside
- Nondihydropyridine calcium Channel blockers are **not** recommended (Class III)
- **New:** Managing Iron Deficiency Outpatient IV iron infusions are reasonable for persistently symptomatic patients to improve functional capacity (Class IIb)
- **DO NOT** use erythropoietin-stimulating agents in HFrEF and anemia (Class III)

HFpEF:

- **New**: may consider aldosterone receptor antagonist (Class IIb)
- **New:** may consider Angiotensin II receptor blockers (Class IIb)
- **Not recommended**: routine use of nitrates or phosphodiesterase-5 inhibitors is INEFFECTIVE (Class III)

B/P management:

- With symptoms of volume overload: **Diuretics** to control hypertension (Class I)
- **New:** Post management of HFpEF volume overload, with persistent hypertension:
- **GDMT titrated to attain SBP <130 mmHg (Class I).**

	Although limited data to guide choice of antihypertensive therapy in HFpEF, preferred agents include RAAS inhibition with ACE-I, ARB, and mineralocorticoid receptor antagonists (spironolactone) Nitrates are **NOT** recommended in HFpEF, unless given for symptomatic CAD, due to association with a signal of harm or decreased exercise tolerance (Class III)
Class IV/Stage D	**Biomarkers:** BNP or NT-proBNP for prognosis (class I). Note: type of natriuretic peptide assay performed must be considered during interpretation of natriuretic peptide biomarkers levels in patients on ARNI. For hospitalized ADHF: BNP or NT-proBNP and cardiac troponin for prognosis (class I) Other biomarkers of myocardial injury or fibrosis for prognosis (Class IIb) **Care/Therapies**: • HFrEF/HFpEF Class II-IV with suspicion of Sleep Disordered Breathing (SDB) or excessive daytime sleepiness: A formal Sleep Assessment to distinguish obstructive vs central sleep apnea is reasonable (Class IIa) • With CV disease and Obstructive Sleep Apnea (OSA), CPAP may be reasonable to improve sleep apnea and reduce daytime sleepiness (Class IIb) • With HF and central sleep apnea (CSA), refer to recent studies for clinical decision. HFrEF ACC Core/Adjunct medication therapies (unless contraindicated): •ACEI or ARB •Beta Blocker: for Class I-IV, •MCR antagonist •Loop Diuretic •ARNI: post GDMT targets; if on ACEI, hold for 36 hour washout period before ARNI is started; if on ARB, stop ARB and begin ARNI as prescribed •Ivabradine (NSR with HR>70 on max tolerated GDMT •Direct Acting Vasodilator •Cardiac Glycoside Advanced Care/Therapies: • IV inotrope • MCS • Transplant As needed support/end of life considerations: • Palliative Care • Hospice

Recommendations/ Other Clinical Considerations	• For patients at risk for developing HF (Class I/Stage A), use of natriuretic peptide biomarker-based screening followed by team-based care including a cardiovascular specialist or Heart Failure Clinic optimizing GDMT can be useful to prevent the development of left ventricular dysfunction Pharmacological treatment for Stage C HFpEF, aldosterone receptor antagonists might be considered in appropriately selected patient.
CHC Adoption and Implementation Resources	Helpful Resources to consider: • https://www.heart.org/-/media/data-import/downloadables/hf-symptom-tracker-ucm_477328.pdf SELF CHECK PLAN FOR PATIENTS • https://www.heart.org/en/health-topics/heart-failure/heart-failure-tools-resources/hf-path-heart-failure-self-management-tool HF PATH APP FOR PATIENTS • http://ahaheartfailure.ksw-gtg.com/publication/?i=461880#{%22issue_id%22:461880,%22page%22:0} IN TERACTIVE EDUCATIONAL BOOKLET FOR PATIENTS • https://www.heart.org/-/media/data-import/downloadables/rahf-toolkit-checklists-ucm_492542.pdf MISC CHECKLISTS EDUCATIONAL TOOLS • https://www.heart.org/-/media/files/health-topics/heart-failure/hf-and-your-ejection-fraction-explained-481884.pdf?la=en&hash=3F51C64E3C51945290B3CC9A516A5BE39C12D217 EF SIMPLE PATIENT EXPLAINATION https://www.mdcalc.com/acc-aha-heart-failure-staging#evidence STAGING TOOL
Other Supplemental Documents (supporting adoption/education)	Heart failure guidelines: What you need to know about the 2017 focused update Cleve Clin J Med 2017;86(2); 123-139 http://www.clevelandclinicmeded.com/online/journal/02_February-2019/0531545/
Quality Measures and Associated Programs **List of current related CHC and ACO quality measures**	Agency for Healthcare Research & Quality (AHQR) 2018 Core Measure – Heart Failure 0277 AHQR PQI: Heart Failure Admission Rate Measures used with Inpatient discharge data to identify quality of care for "ambulatory care sensitive conditions". PQIs are used as a "screening tool" to help flag potential health care quality problem areas. PQI08: Admission with a principal diagnosis of Heart Failure per 100,000 population, ages 18 years and older. Excludes cardiac procedure admission, obstetrics, admission and transfers from other facilities. https://www.qualityindicators.ahrq.gov/Modules/pqi_resources
Strategies to Improve Performance	To decrease heart failure readmissions the following strategies are available: • Referral to Outpatient Heart & Lung Wellness Clinic • Follow-up phone calls from Care Coordinators • Home Health Care including home telemonitor • Community-Based Provider Care • Community-Based Palliative Care

Coding and Documentation Tips	Heart Failure is an HCC (Hierarchical Condition Category) • The heart failure codes are chosen by acute, chronic or acute on chronic • Identify type of heart failure (systolic, diastolic, or combined) • Combination codes are preferred (higher weight HCC) if hypertensive heart disease and chronic kidney disease are present I13.0 Hypertensive heart and chronic kidney disease with heart failure and stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease I13.2 Hypertensive heart and chronic kidney disease with heart failure and with stage 5 chronic kidney disease, or end stage renal disease I50 Heart failure ○ I50.1 Left ventricular failure, unspecified ○ I50.2 Systolic (congestive) heart failure ▪ I50.20 Unspecified systolic (congestive) heart failure ▪ I50.21 Acute systolic (congestive) heart failure ▪ I50.22 Chronic systolic (congestive) heart failure ▪ I50.23 Acute on chronic systolic (congestive) heart failure ○ I50.3 Diastolic (congestive) heart failure ▪ I50.30 Unspecified diastolic (congestive) heart failure ▪ I50.31 Acute diastolic (congestive) heart failure ▪ I50.32 Chronic diastolic (congestive) heart failure ▪ I50.33 Acute on chronic diastolic (congestive) heart failure ○ I50.4 Combined systolic (congestive) and diastolic (congestive) heart failure ▪ I50.40 Unspecified combined systolic (congestive) and diastolic (congestive) heart failure ▪ I50.41 Acute combined systolic (congestive) and diastolic (congestive) heart failure ▪ I50.42 Chronic combined systolic (congestive) and diastolic (congestive) heart failure ▪ I50.43 Acute on chronic combined systolic (congestive) and diastolic (congestive) heart failure ○ I50.8 Other heart failure ▪ I50.81 Right heart failure ▪ I50.810 …… unspecified ▪ I50.811 Acute right heart failure ▪ I50.812 Chronic right heart failure ▪ I50.813 Acute on chronic right heart failure ▪ I50.814 …… due to left heart failure ▪ I50.82 Biventricular heart failure ▪ I50.83 High output heart failure

	▪ I50.84 End stage heart failure ▪ I50.89 Other heart failure ▪ I50.9 Heart failure, unspecified
CHC Heart Failure Clinical Guideline Workgroup	2019 Guideline Workgroup Participants: 1. R. Bliley, M.D. 2. L. Hommes, APN 3. S. Katello, APN 4. A. Miller, APN 5. T. Moisan, M.D. 6. T. Quinn, M.D.
Misc. References	

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These guidelines are provided only as "guides" or assistance for physicians making clinical decisions regarding the care of their patients and may not apply to all patients and all clinical situations. Thus, they are not intended to override clinicians' judgment. As such, they cannot substitute the individual judgment brought to each clinical situation by the patient's physician. As with all clinical reference resources, they reflect the best understanding of the science of medicine at the time of publication, but they should be used with the clear understanding that continued research may result in new knowledge and recommendations.