Interior Health

HEART FAILURE (HF) ADMISSION ORDERS

Weight (kg)

Bulleted orders are initiated by default, unless crossed out and initialed by the physician / prescriber. Boxed orders (☐) require physician / prescriber check mark (☑) to be initiated.

1. ALLERGIES: See Allergy and Adverse Reaction Record (#826234)

2. ADMISSION INSTRUCTIONS: Admit to Ward: _____ MRP: _____

3. CODE STATUS / MOST

- Refer to completed Medical Orders for Scope of Treatment (MOST) #829641

4. CONSULTS

☐ Dietitian ☐ Social Worker ☐ Physiotherapist ☐ Occupational Therapy ☐ Respiratory Therapist
☐ HF RN (if available on site) ☐ Cardiology / Internal Medicine ☐ Other _____

5. DIET

- Heart Healthy Diet (2,000 mg Sodium Restriction) ☐ Diabetic Diet ☐ Other _____
- Regular texture ***OR*** ☐ Other texture: _____
- 1,500 mL / day fluid restriction ***OR*** ☐ _____ mL / day

6. ACTIVITY

- Mobilize as tolerated. Refer to Acute Care Early Progressive Mobilization Algorithm (#826462)

7. MONITORING

- Routine Vitals as per VS policy appropriate for clinical area (ie. Critical Care Routines or IH Vital Signs Monitoring Care Standard)
- Daily weight until discharge (measure before breakfast) and record before 0900h.
- Provide patient with Heart Failure Daily Tracking Tool and teach patient to record weight (#CSBC18)
- Nursing use Heart Failure Assessment Record (#826443) as part of 24 hour flow sheet documentation

☐ Continuous Cardiac Monitoring without interruption × minimum 24 hours, then MRP to re-assess and discontinue if meets criteria
  ☐ May discontinue cardiac monitoring for short periods (ie. shower or diagnostic testing) if clinically stable
  ☐ May discontinue cardiac monitoring for inter-facility transport

8. LABORATORY

- Lytes4 (Na, K, Cl, Co2, Anion Gap), Urea, Creatinine, Troponin, ALT, ALP, total bilirubin, urate, CBC, TSH, INR on admission (if not completed in ED)
- INR daily × 3 days if on warfarin
- Lytes4 (Na, K, Cl, Co2, Anion Gap), Urea, Creatinine daily × 3 days
- BNP

☐ ferritin ☐ Other _____

9. DIAGNOSTICS

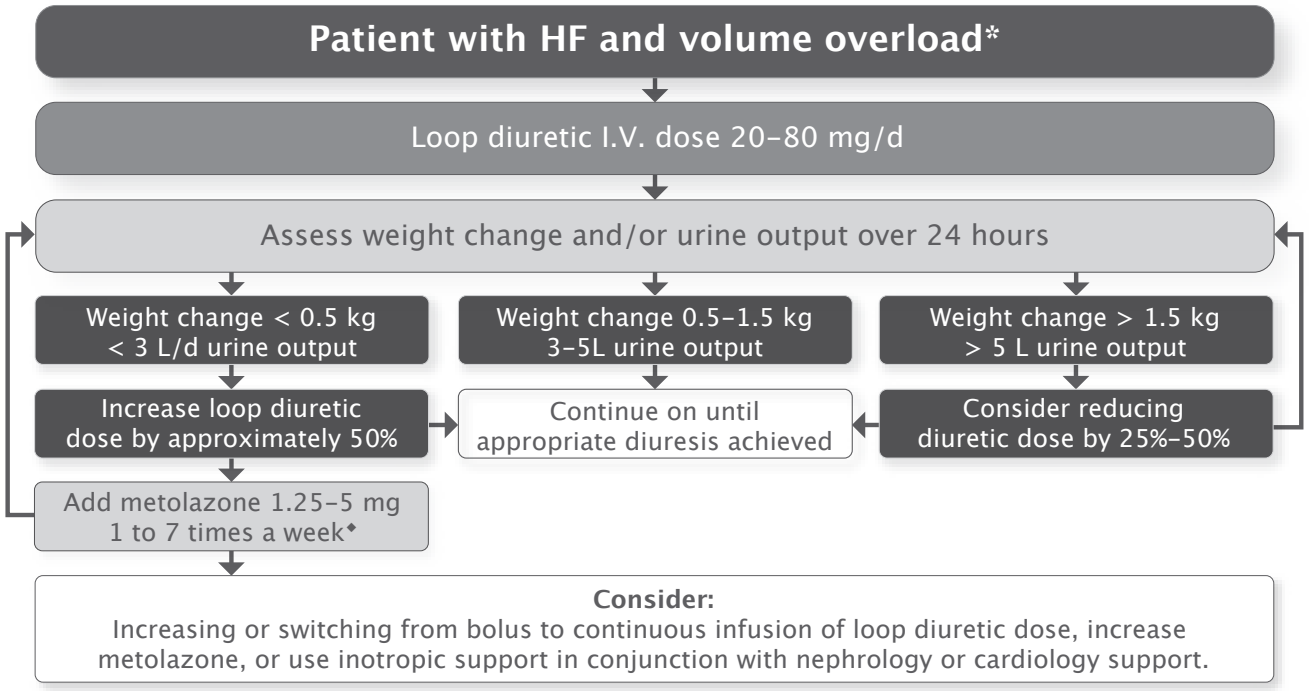
- Chest X-Ray (if not already completed in the emergency department) ☐ PA / Lateral ***OR*** ☐ Portable
- 12 lead ECG if not already completed in the emergency department

☐ Echo Doppler + / - contrast. Urgency: _____ Indication: _____
☐ Other _____

Date (dd / mm / yyyy)	Time	Prescriber's Signature	Printed Name or College ID#
/ /			

DIURETIC DOSING RECOMMENDATIONS

Acute Heart Failure (AHF) Decision Support Tools - Diuretic Dosing



* **Assumes:** 1) Volume assessment with each step
2) Monitoring of electrolytes, renal function, symptoms and vital signs
3) Daily weights
4) Urine output not often accurate or obtainable

◆ Titrate progressively, according to the degree of hypervolemia, furosemide doses and creatinine/kidney function

Recommendations and Practical Tips for Heart Failure with Preserved Ejection Fraction (HFpEF)

- Minimum effective diuretic dose to maintain euvolemia
- Identification and treatment of underlying factors such as ischemia and valvular disease
- Treat hypertension according to current hypertension guidelines
- Usually loop diuretics are needed, renal function may be very volume dependant
- In most cases, an indication for ACEi, ARB and/or BB is present
- Patients with atrial fibrillation should be anticoagulated unless there is a contraindication
- Individuals with HFpEF, serum potassium < 5.0 mmol/L and eGFR >30mL/min, an MRA like spironolactone should be considered

Shortness of Breath and LVEF > 50%

Cardiac causes	Non-cardiac causes
• Heart Failure with preserved ejection fraction (HFpEF) • Other Cardiac Entities - Coronary artery disease - Valvular heart disease - Hypertrophic cardiomyopathy - Restrictive cardiomyopathy - Constrictive pericarditis - Intracardiac shunt	• Lung disease • Hyperventilation • Pulmonary arterial hypertension • Extracardiac shunt • Obesity • Anemia • Thyrotoxicosis • Deconditioning

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10. TREATMENTS

- Insert and Saline Lock IV
- Start oxygen if SpO_2 less than 92%
  - Titrate or wean oxygen for goal SpO_2 greater than or equal to 92%
  - For oxygen requirements greater than 5 L / min contact RT as per specific site protocol

11. MEDICATIONS *(refer to back of pages 1-3 for additional prescribing information)*

- Complete Best Possible Medication History (BPMH) before initiating below medications

DIURETICS *see back of page 1 for information on diuretic dosing and management*

☐ **furosemide** _____ **mg IV** _____ *(frequency)* **×** _____ **days**, then MRP to reassess
☐ **furosemide** _____ **mg PO** _____ *(frequency)*
☐ Other _____

ANGIOTENSIN CONVERTING ENZYME INHIBITOR (ACE-I) / ANGIOTENSIN RECEPTOR BLOCKER (ARB)

ACE-I is first line for HF with reduced ejection fraction – use ARB only if ACE-I intolerance

☐ **ramipril** _____ **mg PO BID** (starting dose 1.25 mg BID, target dose 5 mg BID)
☐ **perindopril** _____ **mg PO DAILY** (starting dose 2 mg DAILY, target dose 8 mg DAILY)
☐ **candesartan** _____ **mg PO DAILY** (starting dose 4 to 8 mg DAILY, target dose 32 mg DAILY)
☐ Other _____

- Hold if symptomatic hypotension (significant dizziness, presyncope, syncope) and notify physician

ANGIOTENSIN RECEPTOR NEPRILYSIN INHIBITOR (ARNI)

sacubitril-valsartan (ENTRESTO®)only if patient was stabilized on medication at home or meets criteria (see back of page 3). EF less than 40% within the past 12 months MUST be documented.

- Cardiology or Internal Medicine must obtain PharmaCare Special Authority approval

☐ **sacubitril-valsartan 24 mg / 26 mg PO BID**
☐ **sacubitril-valsartan 49 mg / 51 mg PO BID**
☐ **sacubitril-valsartan 97 mg / 103 mg PO BID**

- Discontinue ARB and start ARNI at next BID dosing time
- Discontinue ACE-I and start ARNI 36 hours after discontinuing ACE-I

BETA-BLOCKERS

☐ **bisoprolol** _____ **mg PO DAILY** (starting dose 1.25 to 2.5 mg DAILY, target dose 10 mg DAILY)
☐ **carvedilol** _____ **mg PO BID** (starting dose 3.125 mg BID, target dose 25 mg BID, if weight over 85 kg, maximum dose is 50 mg BID)
☐ **metoprolol** _____ **mg PO BID** (starting dose 6.25 mg to 12.5 mg BID, target dose 100 mg BID)

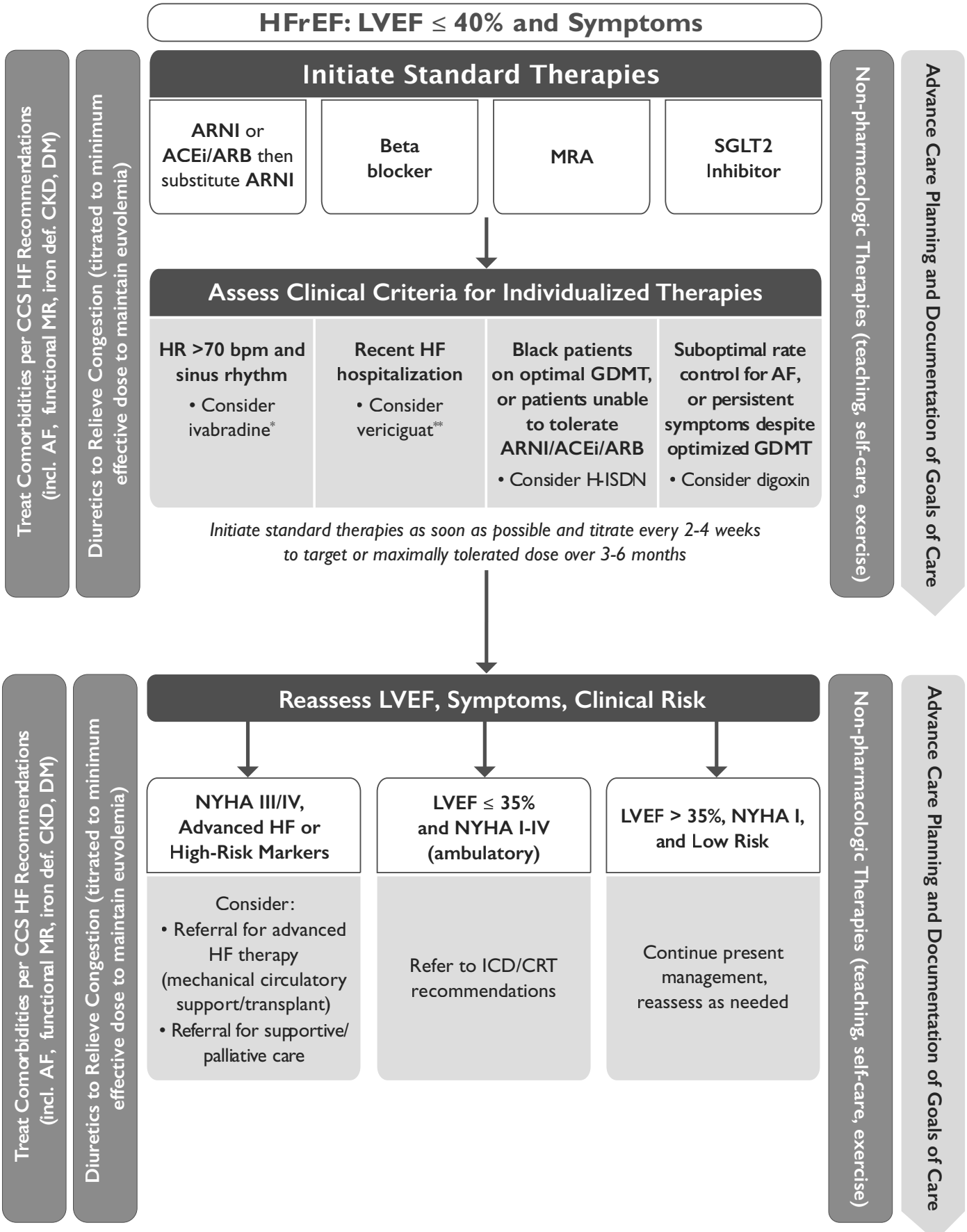
- Hold if symptomatic hypotension or bradycardia (dizziness, presyncope, syncope) and notify physician

SODIUM-GLUCOSE COTRANSPORTER-2 (SGLT2) INHIBITORS

☐ **dapagliflozin 10 mg PO DAILY** (first choice)
☐ **empagliflozin 10 mg PO DAILY** (option for diabetic patients)

Date (dd / mm / yyyy)	Time	Prescriber's Signature	Printed Name or College ID#
/ /			

Therapeutic Approach to Patients with Heart Failure and Reduced Ejection Fraction (HFrEF)



* Health Canada has approved ivabradine for patients with HFrEF and heart rate (HR) 77 bpm in sinus rhythm.
** Vericiguat is not yet approved for use in Canada.

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11. MEDICATIONS *(cont'd)*

IVABRADINE

beta-blocker is first line for patients with HF and reduced ejection fraction. If resting HR remains greater than 77 bpm, LVEF less than 35% and NYHA II-IV despite maximally tolerated beta-blocker, consider adding ivabradine. See back of page 3 for prescribing information.

☐ **ivabradine** _____ **mg PO BID** (starting dose 2.5 to 5 mg BID, target dose 7.5 mg BID)

HYDRALAZINE / NITRATE COMBINATION

hydralazine / nitrate combination may be considered in patients with HFrEF who are unable to tolerate an ACE-I, ARB, or ARNI because of hyperkalemia or renal dysfunction

☐ **hydrALAZINE** _____ **mg PO TID** (starting dose 25 mg TID, target dose 75 mg TID)

☐ **isosorbide dinitrate** _____ **mg PO TID** (starting dose 20 mg TID, target dose 40 mg TID)

☐ **nitroglycerin patch** _____ **mg / hour DAILY** ☐ on in am, off at hs ***OR*** ☐ on at hs, off in the am

MINERALOCORTICOID RECEPTOR ANTAGONIST (MRA)

☐ **spironolactone** _____ **mg PO DAILY** (starting dose 12.5 mg DAILY, maximum dose 50 mg DAILY)

VENOUS THROMBOEMBOLISM PROPHYLAXIS

- Provider to complete Venous Thromboembolism (VTE) Prophylaxis – Adult Orders (#829495)

INFLUENZA PROPHYLAXIS (during influenza season)

☐ **influenza vaccine 0.5 mL IM × 1 dose**

PRN MEDICATIONS

- **acetaminophen 325 to 975 mg PO Q4H PRN** for pain (maximum 4 g / day)
- **antacid 30 mL PO Q6H PRN** for indigestion or heartburn
- ☐ **zopiclone 3.75 to 7.5 mg PO HS PRN** for insomnia
- Provider to complete site specific **bowel elimination protocol**
- If tobacco user, Provider to complete **NICOTINE Replacement Orders (#829435)**

12. TRANSITION TO COMMUNITY PLANNING

- Provide patient with Living with Heart Failure Patient Education Resource Package (#HSFC11)
- Complete Heart Failure Pathway: Transition to Community (#829564) at discharge
- RN complete risk assessment score (LACE score) within 24 hours prior to discharge
- If discharge prescription for prn diuretic, provide patient with Heart Failure Zones Action Plan (#826649)
- Pharmacist (for discharge medication reconciliation if available on site)

13. ADDITIONAL ORDERS

☐ _____

☐ _____

☐ _____

Date (dd / mm / yyyy)	Time	Prescriber's Signature	Printed Name or College ID#
/ /			

sacubitril-valsartan (Entresto®) Information

sacubitril-valsartan Indications:

- Heart failure with reduced ejection fraction (LVEF less than 40%)

AND

- NYHA class 2 or 3 symptoms that have persisted despite at least 4 weeks of treatment on optimal, stable doses of:
  - An angiotensin-converting enzyme inhibitor (ACE-I) or an angiotensin II receptor antagonist (ARB); AND
  - A beta-blocker; AND
  - An aldosterone antagonist (if tolerable)

sacubitril-valsartan **REPLACES** an ACE-I or ARB

*****If switching from an ACE-I to sacubitril-valsartan, Stop ACE-I for 36 hours prior to starting sacubitril-valsartan*****

sacubitril-valsartan Dosing:

Starting dose:

- Patients on high dose ACE-I or ARB (ramipril dose greater than 5 mg / day, or equivalent)
  - sacubitril-valsartan 49 / 51 mg PO BID
- Patients on low dose ACE-I or ARB (ramipril dose less than or equal to 5 mg / day, or equivalent)
  - sacubitril-valsartan 24 / 26 mg PO BID

Target dose:

- sacubitril-valsartan 97 / 103 mg PO BID

Note: valsartan in sacubitril-valsartan is more bioavailable than in other formulations, so 26 mg, 51 mg and 103 mg in the combination pill is equivalent to 40 mg, 80 mg and 160 mg of valsartan in other formulations.

ivabradine (Lancora®) Information

ivabradine Indications:

Patient MUST be in sinus rhythm to initiate ivabradine. ivabradine is NOT to be used as a first line treatment for heart failure.

ivabradine is an add on medication for patients already receiving maximally tolerated doses of guideline directed heart failure therapy for a minimum of three months with:

- Heart rate greater than 70 BPM identified by 12 Lead ECG or 24 hour holter monitor
- NYHA class II-III functional status
- LVEF less than 35% (preferably measured within the last year)
- The dose of ivabradine should be titrated to keep HR greater than 50 BPM

ivabradine Dosing:

- Initiate ivabradine at 5 mg PO twice a day if patient has stable HF and heart rate greater than 70 BPM
- Initiate ivabradine at 2.5 mg PO twice a day if patient is on drugs moderately inhibiting CYP3A4 enzyme or patient aged 75 years or above

Additional Information:

- A special authority form MUST be completed by a cardiologist or internist for Pharmacare coverage of sacubitril-valsartan (Entresto®) and ivabradine (Lancora®)
- BNP levels may be modestly elevated in patients receiving sacubitril-valsartan in the absence of cardiac decompensation.