Queensland Government

Heart Failure (HF) Medication Optimisation Plan

Facility: .....

(Affix identification label here)

URN:

Family name:

Given name(s):

Address:

Date of birth: Sex: ☐ M ☐ F ☐ I

Dear .....

Please optimise this patient's heart failure medications and call the number below if there are any concerns.

Recent results	EF %: Date	Weight (kg)	eGFR mL/min	K+ mmol/L	BP mmHg	HR bpm

Monitoring recommendations (see overleaf for guidance)

- Check blood pressure (BP) including postural drop and heart rate (HR) each visit
- ACEI/ARB/ARNI/MRA*: check serum potassium (K^+), renal function 1-2 week/s after commencing or titrating (if K^+ is high recheck in 48 hours). For MRAs check every 4 weeks for 12 weeks, at 6 months, then 6-monthly
- SGLT2i*: before commencing check volume status and for type 1 diabetics seek endocrinologist approval
- Diuretic dose changes beyond 3 days require medical review and checking of blood chemistry and volume status
- Iron: Order Hb*, CRP*, ferritin & transferrin saturation at first assessment and every 3-6 months if iron deficient

The 4 drug classes that reduce heart failure mortality & morbidity		**Combination therapy is more effective than a single medication at a higher dose BUT avoid simultaneous up titration**		
Class*	Medication name	Current dose/ frequency	Target dose/frequency	Schedule / Instructions
ACEI ARB ARNI		mg	mg	Washout for 36 hours or more if switching from ACEI to ARNI or vice versa Increase dose by: mg every week(s)
Beta-blocker	☐ Bisoprolol ☐ Carvedilol ☐ Metoprolol XL ☐ Nebivolol	mg	mg	Increase dose by: mg every week(s)
MRA	☐ Eplerenone ☐ Spironolactone	mg	mg	Increase dose once stable on other heart failure medications.
SGLT2i	☐ Dapagliflozin ☐ Empagliflozin	mg	N/A	A transient fall in eGFR (up to 30%) is common and not usually clinically significant. Withhold if perioperative or unwell/fasting.

Medications that provide symptom relief		
Diuretic	☐ Furosemide ☐ Bumetanide ☐ Patient has a diuretic action plan	Adjust diuretic dose according to clinical assessment (e.g., increase dose 50 –100% if fluid overloaded)
Iron infusion	Date of infusion (if given): _____ (oral iron is ineffective with heart failure) ☐ Please check iron studies (see monitoring above). Give an iron infusion if ferritin is less than100 µg/L *or* 100-299 µg/L with a transferrin saturation below 20%. Contact hospital if unable to provide infusion	

Notes:

Consultant's name: .....

Authorised by (Dr/NP): .....
Name / Designation

Authoriser signature: ..... Date: .....

Heart Failure Service Name

.....

Phone: .....

*ACEI: angiotensin-converting-enzyme inhibitor; ARB: angiotensin II receptor blockers; ARNI: angiotensin receptor neprilysin inhibitor; MRA: mineralocorticoid receptor antagonist; SGLT2i: sodium-glucose cotransporter-2 inhibitor; Hb: haemoglobin; CRP:C-reactive protein; Estimated Glomerular Filtration Rate (eGFR)

DO NOT WRITE IN THIS BINDING MARGIN

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v2.00 - 08/2022
SW1163

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Medications that may cause or worsen HF

Non-steroidal anti-inflammatories, cyclooxygenase-2 inhibitors; centrally acting calcium channel blockers (verapamil, diltiazem), corticosteroids, tricyclic antidepressants, saxagliptin, moxonidine, thiazolidinediones (glitazones)

Hypotension

Asymptomatic hypotension usually requires no change in therapy (unless systolic BP is consistently less than 90mmHg).

Symptomatic hypotension

1. Stop or reduce calcium-channel blockers and/or other vasodilators unless essential e.g., for angina.

II. Consider reducing diuretic dose if there are no signs or symptoms of congestion.

III. Temporarily reduce ACEI, ARB, ARNI or beta-blocker dose if above measures do not work. Avoid abrupt cessation of beta blockers unless patient is in shock*.

IV. Review patient within a week and seek specialist advice if the above measures do not work.

* For severe hypotension or shock, refer to hospital emergency department (ED).

Worsening renal function

Cautions for renal function

- Caution with ARNI if eGFR is less than 30mL/min.
- eGFR does not accurately reflect renal function where body weight is very low (tending to overestimate) or when volume change is rapid.
- Where there is severe dehydration, sepsis, or medication induced nephrotoxicity refer to ED. Consider withholding MRA first, then SGLT2i, followed by ACEI, ARB or ARNI until patient is reviewed.

After commencing or titrating therapy:

- Expect a rise in creatinine, urea, and potassium (K+) for ACEI, ARB, ARNI, or MRA. A decline in eGFR up to 30% is acceptable if it stabilises within 2 weeks (or 4 to 12 weeks for SGLT2i).
- If eGFR declines by more than 30%, review fluid status and nephrotoxic medications and seek specialist advice about safety of continuing therapy.

Congestion or peripheral oedema

- Increase the diuretic dose, then gradually reduce beta-blocker dose (avoiding abrupt cessation).
- Liaise with the heart failure service and review the patient daily or weekly (as appropriate).
- Seek specialist advice if symptoms do not improve. If deterioration is severe, refer patient to ED.

Bradycardia

- Where HR is less than 50 beats per minute, and the patient is on a beta-blocker, review the need for other drugs that slow heart rate (e.g., digoxin, amiodarone) in consultation with specialist; and arrange ECG to exclude heart block.
- Consider reducing beta-blocker (avoiding abrupt cessation) if bradycardia is symptomatic.
- If pacemaker is present, seek specialist review.

Hyperkalaemia

Monitor K+ for ACEI, ARB, ARNI and MRA. Urgently check K+, creatinine and urea for dehydration or sepsis.

If serum K+ is:

- 5.0–5.5 mmol/L reduce or withhold K+ supplements and check diet
- 5.6–5.9 mmol/L perform ECG and withhold K+ supplements and reduce K+ retaining agents especially MRAs (less so for ARNI, ACEI & ARB)
- 6 mmol/L or more, urgently seek specialist advice
- Recurrently high, seek specialist advice

Volume depletion

SGLT2i, MRA and ARNI have a mild diuretic effect. Assess volume status before commencing or adjusting doses and reduce the dose of loop diuretic in euvolaemic patients if required.

Cough

- Exclude pulmonary oedema or reflux as a cause if cough is new or worsening.
- Only stop implicated drugs if cough is not tolerable and consider substituting ACEI with ARB or ARNI.

Angioedema (rare)

- Stop ACEI, ARB, or ARNI immediately, and consider referral to an immunologist.
- If there is a history of ACEI related angioedema, seek specialist advice before trialling ARB due to possible cross-sensitivity.
- Avoid ARNI if angioedema is due to ACEI or ARB.

Euglycemic ketoacidosis (rare)

SGLT2i increase the risk of ketoacidosis in diabetic patients. Endocrinologist review is advised before commencing in patients with type 1 diabetes. The risk increases when the patient has missed or reduced insulin doses, is fasting, perioperative, on a ketogenic diet, dehydrated, or has vomiting or diarrhoea.

This guide is not intended to replace clinical judgment