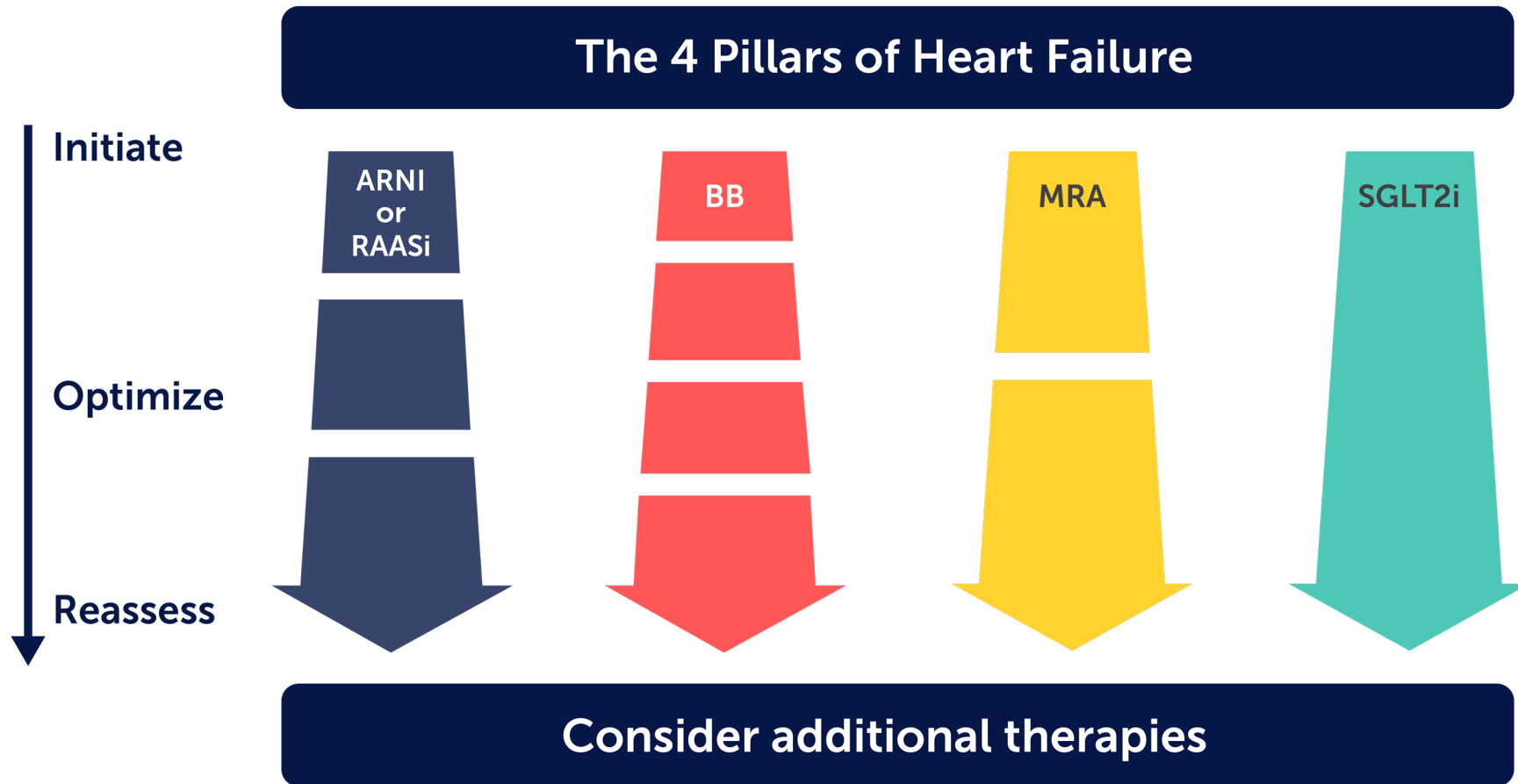


Common Heart Failure Patient

- Suboptimal RAASi or MRA
 - Intolerance
 - Risk of hyperkalemia
 - Allergy to medication (reported as hyperkalemia)
- Elements of CKD
 - Low eGFR



Initiation and Optimization of the 4 Pillars of Heart Failure



ARNI, angiotensin receptor-neprilysin inhibitor; BB, beta-blocker; MRA, mineralocorticoid receptor antagonist; RAASi, renin-angiotensin-aldosterone system inhibitor; SGLT2i, sodium glucose transporter type 2 inhibitor.

Adapted from Straw S, et al. *Open Heart*. 2021;8(1):e001585.



CKD and HF Treatment Guidelines Recommend Novel K⁺ Binders to Treat Hyperkalemia and Enable GDMT

KDIGO 2020 Clinical Practice Guideline for Diabetes Management in CKD¹

Initiate ACEI or ARB in patients with CKD



Monitor potassium within 2-4 weeks after starting or changing dose

If HK occurs:



- Review concurrent drugs
- Moderate potassium intake
- Consider:
 - Diuretics
 - Sodium bicarbonate
 - GI cation exchangers



Reduce dose or stop ACEI or ARB as last resort

KDIGO 2021 Clinical Practice Guideline for the Management of Blood Pressure in CKD²

Recommendations are aligned with KDIGO 2020 guidelines. In addition:

Improvement in K⁺ control could lead to increased use of RAASi

In CKD patients receiving RAASi who develop hyperkalemia, the latter can be controlled with **newer oral K⁺ binders** in many patients, with the effect that RAASi can be continued at the recommended dose

2021 ESC HF Guidelines³

RAASi should be optimized when K⁺ levels are <5.0 mEq/L; closely monitor K⁺ levels

In chronic or recurrent hyperkalemia, an approved **K⁺-lowering agent should be initiated** as soon as K⁺ levels are confirmed as >5.0 mEq/L

Maintain K⁺-lowering agent unless alternative treatable etiology for hyperkalemia is identified

GDMT, guideline-directed medical therapy; HK, hyperkalemia; RAASi, renin-angiotensin-aldosterone system inhibitor.

1. KDIGO Diabetes Work Group. *Kidney Int.* 2020;98(4S):S1-S115. 2. KDIGO Blood Pressure Work Group. *Kidney Int.* 2021;99(3S):S1-S87.




3. McDonagh TA, et al. *Eur Heart J.* 2021;42(36):3599-3726.



CARE-HK Registry

CARE-HK in heart failure (HF) is the first international registry enrolling patients with chronic HF who are at high risk for hyperkalemia

Study Design

-  Non-interventional, international registry (NCT04864795)
-  Adults with a diagnosis of chronic HF, regardless of ejection fraction
-  Enrolling patients from ~100 sites across 8 countries in Europe and the USA

Key Inclusion/Exclusion Criteria

- ✓ Treatment with RAASi, ACEI/ARNI
- ✓ Treatment with, or indicated for, a mineralocorticoid receptor antagonist
- ✓ Increased risk for hyperkalemia (HK):
 - eGFR <45 mL/min/1.73 m²,
 - Current HK at enrollment (defined as serum potassium [sK⁺] >5.0 mmol/L), or
 - History of HK in the previous 24 months
- ✗ Renal replacement therapy or mechanical circulatory support

ACEI, angiotensin-converting enzyme inhibitor; ARNI, angiotensin receptor-neprilysin inhibitor; MRA, mineralocorticoid receptor antagonist; RAASi, renin-angiotensin-aldosterone system inhibitor.

Greene SJ, et al. Presented at ESC Heart Failure 2023; Prague, Czechia; May 20-23, 2023.



Goals of CARE-HK

- Determine the true treatment patterns in routine clinical practice for taking care of this high-risk heart failure subset at high risk for hyperkalemia
- Explore how potassium binders are being used in real-world practice
- Understand the effectiveness of potassium binders in preventing and treating hyperkalemic episodes



Coordinating Care for Patients with HF and CKD

- Get the nephrologist involved early with these patients
- Open lines of communication are key
 - Electronic health records are helpful
- Empower others on the team to make evidence-based medication decisions
 - Don't hesitate to start RAAS inhibitors or potassium binders



Addressing Fears in Potassium Binder Use

- Education and awareness of potassium binder safety and effectiveness
- Patient awareness of available therapies to reduce potassium levels
- Patient awareness of importance of maintaining GDMT and risks of omission



Key Takeaway: Stephen Greene, MD

“We're really at a place now where hyperkalemia really shouldn't be a barrier to the vast majority of our patients achieving guideline-directed medical therapy.”



Key Takeaway: Ellie Kelepouris, MD

“We should empower ourselves and our colleagues to use these treatments without fear of hyperkalemia, because we do have...in our tool kit, the use of potassium binders...”

“...which will enable us to continue patients on guideline-directed medical therapy which can save their lives, particularly in heart failure and advanced CKD.”

