Prescribing Guidelines For The Use Of SGLT2 Inhibitors (Dapagliflozin And Empagliflozin) In The Management Of Chronic Heart Failure.

Prepared by- Ebun Ojo, MO Senior Pharmacist CV Lead with thanks to Heart Failure specialists across South Yorkshire.

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Contents

Background

Updated NICE guidelines for the diagnosis and management of chronic heart failure (NICE, 2025), include recommendations and considerations for prescribing SGLT2 inhibitors, across all forms of chronic heart failure- heart failure with reduced, mildly reduced and preserved ejection fraction (HFrEF, HFmrEF and HFpEF, respectively).
The SGLT2 inhibitors with a current licence for use in heart failure are dapagliflozin and empagliflozin.
Both dapagliflozin and empagliflozin are recommended as an option for treating people with newly diagnosed and pre-existing heart failure

- In combination with an MRA[1], beta blocker and an ACEi[2]/ARNI[3]/ARB[4], for people with heart failure with reduced or mildly reduced ejection fraction,
- In combination with an MRA, beta blocker and an ACEi/ARB, for people with heart failure with mildly reduced ejection fraction
- In combination with an MRA for people with heart failure with preserved ejection fraction.

Scope

These prescribing guidelines have been developed to support primary care clinicians with the initiation of SGLT2 inhibitors in heart failure patients

- on confirmation of a heart failure diagnosis by echocardiogram (ECHO)
- on the advice of a specialist heart failure clinician
- in line with a heart failure management plan

These prescribing recommendations should be used alongside the published NICE visual summary on core treatments for chronic heart failure.

Generic dapagliflozin is the first-line SGLT2 inhibitor for the management of patients with chronic heart failure in line with the South Yorkshire position statement for preferred SGLT2 inhibitors.

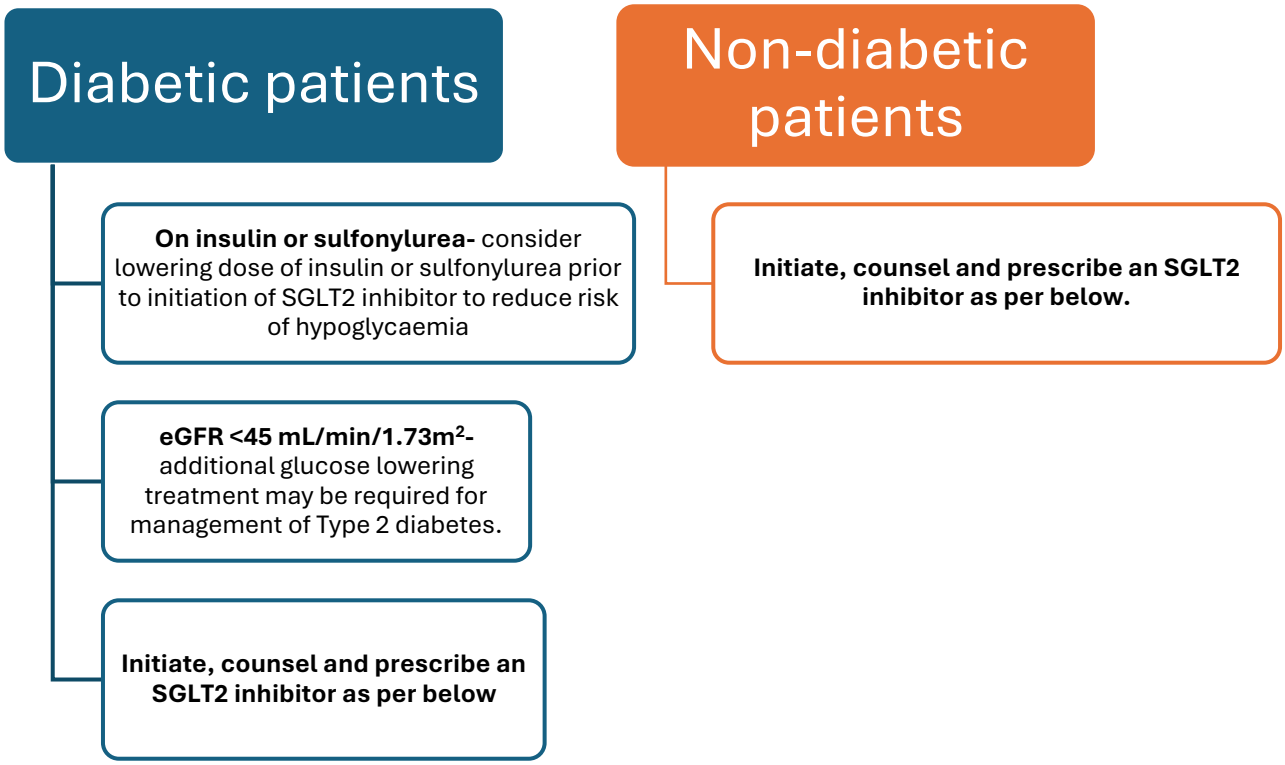
These recommendations are an update and will replace the AMBER-G guidance for SGLT2 inhibitors (dapagliflozin and empagliflozin) in heart failure (Barnsley Area Prescribing Committee, 2024) and the Sheffield guidance for primary care use of dapagliflozin and empagliflozin in heart failure with reduced ejection fraction (HFrEF) in patients with and without diabetes mellitus (Iqbal, 2023).

[1] Mineralocorticoid receptor antagonist
[2] Angiotensin converting enzyme inhibitor
[3] Angiotensin Receptor Neprilysin Inhibitor
[4] Angiotensin II receptor blocker

Evidence

Large randomised outcome trials (DAPA-HF, EMPEROR-Reduced, EMPEROR-Preserved, and DELIVER) have shown that SGLT2 inhibitors deliver early and clinically meaningful reductions in heart-failure hospitalisation across all ejection-fraction categories, with cardiovascular mortality benefit observed in patients with reduced ejection fraction, and consistent improvements in symptom burden irrespective of diabetes status (McMurray J. , et al., 2019) (Packer, et al., 2020). These effects occur early after treatment initiation (within 14 days in patients with HFrEF and within 28 days in patients with HFmrEF and with HFpEF) and are consistent across key subgroups, establishing SGLT2 inhibitors as a foundational therapy in chronic heart failure.

Dosing and administration



	Dapagliflozin	Empagliflozin
Dosing and administration	**10mg ONCE daily** No dose titration required	**10mg ONCE daily** No dose titration required
Caution and contraindications	**Renal Impairment:** Do not initiate treatment with dapagliflozin in patients with eGFR < 15 mL/min/1.73m^2. Initiation of dapagliflozin at eGFR <25 mL/min/1.73 m^2 is not evaluated in RCTs. However, treatment continuation is supported to eGFR ≥15 mL/min/1.73 m^2 based on trial (DAPA-HF,	**Renal impairment:** Due to limited experience, it is not recommended to initiate treatment with empagliflozin in patients with an eGFR <20 ml/min/1.73 m^2.

	DELIVER, and DAPA-CKD) protocols and post-hoc analyses.	
	Hepatic Impairment: No dose adjustment is necessary for patients with mild or moderate hepatic impairment. Due to limited therapeutic experience, dapagliflozin is not recommended for use in patients with severe hepatic impairment.	**Hepatic Impairment:** No dose adjustment is required for patients with hepatic impairment. Empagliflozin exposure is increased in patients with severe hepatic impairment. Therapeutic experience in patients with severe hepatic impairment is limited and therefore not recommended for use in this population.
	Patients with type 1 diabetes mellitus: SGLT 2 inhibitors are contraindicated for use in patients with type 1 diabetes mellitus due to the increased risk of diabetic ketoacidosis (DKA). **Patients with type 2 diabetes mellitus:** Use SGLT2 inhibitors with caution in patients with risk factors for DKA, (including a history of pancreatitis, low beta cell reserve, conditions leading to restricted food intake or severe dehydration, sudden reduction in insulin, increased insulin requirements due to acute illness, surgery or alcohol abuse), and discuss these risk factors with patients. See also considerations for counselling below. **Elderly or volume depletion:** Use SGLT2 inhibitors with caution in patients who are elderly, hypotensive or at risk of volume depletion. Correct hypovolaemia before initiating treatment with SGLT2 inhibitors. **History of foot ulcer, peripheral arterial disease, or lower limb amputation:** increased risk of lower limb amputation (mainly toes)- see MHRA advice (MHRA, 2017). Advise to stop treatment if signs of a foot complication such as skin ulceration, discolouration, infection, or new pain/tenderness, and seek urgent medical assessment. **Urinary tract infections:** urinary glucose excretion may be associated with an increased risk of UTIs; therefore, temporary interruption of treatment should be considered in patients with UTI complicated by pyelonephritis or urosepsis.	

See Appendix 1- Checklist for SGLT2 inhibitor prescribing in patients with heart failure for a useful resource to support prescribers with initiating SGLT2 inhibitors.

Monitoring requirements

Initial monitoring- Assess baseline renal function (U&Es[5] and uACR[6]), liver function tests (LFTs), blood pressure (BP) and volume status prior to initiation. **Avoid initiating an SGLT2 inhibitor in patients with a systolic BP <95mmHg.**
Routine monitoring- no additional monitoring is required for SGLT2 inhibitors. Patients on concomitant medicines affecting renal function or volume status (e.g. ACE inhibitors, MRAs or diuretics) should have renal monitoring at appropriate intervals in line with common blood monitoring schedules.

Considerations for counselling

Sick-day guidance for prevention of acute kidney injury (AKI)

- Provide sick-day guidance to all patients initiated on SGLT2 inhibitors for the management of heart failure.
- Particular attention should be given to those at risk of volume depletion, for example, due to restricted fluid intake, use of diuretics or acute illness.
- Check that patients are aware of/ re-iterate sick-day advice at 6-monthly heart failure reviews
- See Appendix 2- Sick-day guidance (Heart Failure-specific safety-netting + escalation) for more information on providing sick-day advice to heart failure patients and balancing this with the risk of heart failure decompensation.

FOR DIABETIC PATIENTS- risk of diabetic ketoacidosis

- Counsel patients on the signs and symptoms of DKA and advise them to seek immediate medical attention if these occur- these include rapid weight loss, nausea or vomiting, abdominal pain, fast and deep breathing, sleepiness, a sweet smell to the breath, a sweet or metallic taste in the mouth, or a different odour to urine or sweat.
- Be aware that symptoms of DKA may present at euglycaemic levels (blood glucose levels <14mmol/l), so test for raised ketones in patients with signs and symptoms of DKA even if plasma glucose levels are near-normal
- See also MHRA drug safety alert on SGLT2 inhibitors and DKA- SGLT2 inhibitors (canagliflozin, dapagliflozin, empagliflozin): risk of diabetic ketoacidosis - GOV.UK
- Seek endocrine specialist advice before starting an SGLT2 inhibitor for heart failure patients at high risk of DKA- e.g. where insulin strategy is unclear, or diabetes follow-up is absent- particularly for complex insulin regimens, low β-cell reserve, or history of pancreatitis.
- Do not initiate or restart SGLT2 inhibitors in patients with a history of DKA.

[5] U&Es- urea and electrolytes,
[6] uACR- urine albumin/creatinine ratio

Necrotising fasciitis of the genitalia or perineum (Fournier's gangrene)

- Advise patients to seek urgent medical attention if they experience severe pain, tenderness, erythema, or swelling in the genital or perineal area, accompanied by fever or malaise.
- This is a rare (1:4500) but serious and potentially life-threatening event that requires urgent surgical intervention and antibiotic treatment.
- If Fournier's gangrene is suspected, SGLT2 inhibitor treatment should be discontinued permanently and prompt treatment instituted
- See also MHRA drug safety alert on SGLT2 inhibitors and Fourniere's Gangrene- https://www.gov.uk/drug-safety-update/sglt2-inhibitors-reports-of-fournier-s-gangrene-necrotising-fasciitis-of-the-genitalia-or-perineum

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Appendix 1- Checklist for SGLT2 inhibitor prescribing in patients with heart failure

Section	Checklist Points
Confirm indication	☐ HF diagnosis confirmed by ECHO or specialist advice.
Eligibility & safety	☐ eGFR cutoffs: **≥25ml/min/1.73m² if dapagliflozin; ≥20 ml/min/1.73m² if empagliflozin.** Clinical trial evidence for initiating dapagliflozin at eGFR <25 mL/min/1.73m^2 is lacking, requiring careful clinical judgement and monitoring. ☐ Systolic BP is >95mmHg ☐ Patient is not/at risk of fluid depletion ☐ Patient does not have T1DM ☐ No history of SGLT2-induced diabetic ketoacidosis ☐ Dose of insulin or sulphonylurea reduced if T2DM ☐ Patient does not have severe hepatic impairment (AST/ALT >3x ULN or total bilirubin >2x ULN)
Dose	☐ 10 mg once daily.
Baseline tests	☐ U&Es, urine ACR, LFTs and BP
Counselling	☐ Explain early benefits and Fournier's symptoms; shared decision-making. ☐ Risk of diabetic ketoacidosis discussed with patient including symptoms of rapid weight loss, nausea/vomiting, abdominal pain, deep/fast breathing, drowsiness, sweet/metallic breath or taste, unusual sweat/urine odour. ☐ Risk of lower limb amputations (mainly toes). Highlight importance of foot checks for diabetes patients. stop if new pain, discolouration, infection, or ulceration and pt should seek urgent assessment ☐ Risk of Fournier's gangrene. Risk is rare but serious. Urgent attention if severe genital/perineal pain, redness or swelling + fever/malaise → stop drug and escalate. ☐ Sick day guidance discussed with patient- consider providing printed letter using clinical system templates

Appendix 2- Sick-day guidance (Heart Failure-specific safety-netting + escalation)

Balancing the risk of acute kidney injury (AKI) with decompensation risk

Patients prescribed SGLT2 inhibitors should receive standard sick-day advice to prevent dehydration-related AKI. However, for heart failure patients, this must be paired with clear safety-netting to avoid clinical deterioration when temporarily holding medicines (e.g., diuretics, RAAS inhibitors, or MRAs) during dehydrating illness.
Key considerations when providing sick day guidance:

- Do not routinely stop loop diuretics during mild illness if the patient has signs of congestion (e.g., worsening ankle swelling, new orthopnoea, or rapid weight gain >2 kg in 3 days). In these cases, continue diuretics unless the patient is clinically dehydrated.
- **If the patient is both dehydrated and congested, prioritise clinical assessment rather than blanket medicine omission.**
- Daily self-monitoring during illness: Advise patients to monitor weight, BP, pulse, and fluid intake for 5–7 days.
- Escalate urgently (same day) if any of the following occur:
    - Rapid weight gain, worsening breathlessness at rest, new confusion, dizziness with reduced oral intake, or SBP persistently <90 mmHg.
    - No urine output for 12 hours or features of dehydration that are not improving.
    - Recurrent vomiting/diarrhoea where fluids cannot be maintained.
- Restart held HF medicines promptly once the patient is eating and drinking normally for 24-48 hours, unless advised otherwise by a HF specialist.
- Encourage clinicians to safety-net each dose change with explicit thresholds documented in the HF plan (who to call, when to hold, when to restart).
- Where available, community or PCN phlebotomy hubs should be used to support interim U&Es without delay.
- Clinicians should consider whether temporarily holding SGLT2i, RAASi, or MRA during illness could destabilise HF, and where risk is moderate-to-high, seek HF specialist advice for the restart strategy.