North Yorkshire & York Area Prescribing Committee

Prescribing information for the management of heart failure with Dapagliflozin & Empagliflozin

(SGLT2 inhibitors licensed for heart failure)

See BNF and SPC for full list of cautions, contra indications and side effects.

Indication

To be used in the treatment of symptomatic chronic heart failure (HF) with preserved (HFpEF), mildly reduced (HFmpEF), and reduced ejection fraction (HFrEF), with or without type 2 diabetes.

Use is supported by the product license and NICE guidance.

Place in therapy

Large-scale trials have demonstrated the efficacy of ACE-inhibitors/ARB or sacubitril/valsartan, β-blockers, MRAs, and SGLT2 inhibitors as disease-modifying agents that (when combined) represent foundational therapy for heart failure.

Historical guidelines for heart failure adopt a stepwise approach based on the chronology of clinical trial publication of the individual drug groups. Traditional optimisation involved sequential initiation and titration of each drug group which is extremely expensive in terms of resources, time and repeat tests and could take up to 6 months.

Newer drugs have shown significant benefit within the first 30 days of initiation therefore the historical model results in delayed treatment, hospitalisations and patient harm. The addition of a new drug class yields benefits that are greater in magnitude than up-titration of existing drugs.

Drug initiation of all four of these drug groups should be considered after individual assessment with checks of fluid balance, heart rate, blood pressure, renal function and weight. Titration should occur on an appropriate timescale, usually 1-2 weekly. For inpatients where all parameters including renal function results are available daily, all four drug groups should ideally be initiated prior to discharge.

Cautions and Contraindications

Do not initiate in:

- Type 1 diabetes-– refer to diabetes team.
- Active genital fungal infection.
- Patients with a history of diabetic ketoacidosis (DKA)
- Severe hypoglycaemia – refer to diabetes team.
- Pregnancy/breastfeeding – refer to pharmacy for advice.
- Dialysis patients
- Estimated glomerular filtration rate (eGFR) < 20mL/min /1.73m^2 – refer to cardiologist for initiation.

Developed in consultation with CV/Endocrine specialists at York.
Written: May 2021. Updated to include empagliflozin: June 2024 (Version 2) Review: June 2026
Author Stephanie Tay (checked Jane Crewe): York and Scarborough Teaching Hospitals NHS FT
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Delay initiation if:

- Systolic blood pressure (BP) < 95 mmHg
- Volume depleted.
- Clinically unstable

Before initiation

Urea and electrolytes (including renal function)	For patients with diabetes, if the eGFR < 45 mL/min/1.73m^2 the glycaemic effect of dapagliflozin and empagliflozin is reduced. However, it may still be initiated for the indication of HF unless eGFR < 20mL/min/1.73m^2. If this is the case refer to cardiologist for consideration of initiation. Dialysis patients – do not initiate.
Blood pressure	Delay initiation if volume depleted, systolic BP <95.
HbA1c	Check patient known to be diabetic. GP follow up if not previously diagnosed. **Patients with type 1 diabetes**: refer to diabetes team. **Patients with type 2 diabetes**: consider dose reduction of insulin and sulfonylureas. Refer to diabetes team for advice if: • There is a history of previous/frequent hypoglycaemia. • **Impaired renal function:** The glycaemic effect is dependent on renal function. Additional glucose-lowering treatment may need to be considered if eGFR falls persistently below 45mL/min.
Elderly patients	Use with caution in the elderly: • In frailty score of 6 and above • Consider risk of falls • **If treatment initiated, monitor U&Es in 3 days**

Dose

Initiate dapagliflozin and empagliflozin at 10mg OD.

In severe liver impairment, avoid empagliflozin and initiate dapagliflozin at 5mg OD.

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Monitoring

Renal function	at 4 weeks	If eGFR is less than 60mL/min, repeat every 3-6 months. A modest decrease in eGFR (3 to 4 ml/min) is expected with initiation.
Blood pressure	at 4 weeks	Treatment is associated with sustained but minimal lowering of systolic BP (2 to 3 mmHg). Educate patient about potential for orthostatic hypotension and to monitor daily weights and BP, particularly in the first week of therapy. Encourage patient to call healthcare providers if home weight decreases in the setting of symptomatic hypotension.
Fluid depletion		May need to reduce dose of loop diuretic. Consider and review any concomitant medications which are likely to increase risk of volume depletion (e.g., diuretics) or cause orthostatic hypotension (e.g., antihypertensive therapy) Temporary interruption of treatment is recommended for patients who develop volume depletion until the depletion is corrected.
Blood glucose for diabetes patients		Educate patient to monitor for signs of hypoglycaemia. Consider and review any concomitant medications that could reduce blood glucose levels.

Patient education

Ensure that the patient has the patient information leaflet and education about dapagliflozin and empagliflozin.

Important side effects to counsel patient:

- Orthostatic hypotension
- Fournier's gangrene – advise good perineal hygiene (see MHRA safety update feb 2019)
- Diabetic ketoacidosis (DKA) – educate patient regarding signs and symptoms.
- Sick day rule

Diabetic ketoacidosis (DKA)

Counsel patient (e.g. rapid weight loss, nausea and 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/sweat); seek immediate medical advice.

SGLT2 inhibitors should be discontinued if the patient develops DKA secondary to SGLT2 inhibitor.

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All patients: Withhold SGLT2 inhibitor in patients who:

- are hospitalised for major surgery or acute serious illnesses such as major infection or conditions leading to volume depletion (e.g., vomiting/diarrhoea): blood ketone levels should be monitored (and be normal before restarting) (MRHA 2020)
- are not eating or drinking.

Treatment may be restarted once the patient's condition has stabilised, and they are eating normally for at least 24 hours.

Other points to remember.

Highlight indication as HF to ensure it's not stopped as part of a routine diabetes review.

If already on a different SGLT2 inhibitor, this may be continued or switched to dapagliflozin or empagliflozin if appropriate.

Sick day rule

Patient should be reminded that if they become unwell and are unable to maintain adequate fluid intake, they should stop taking the following medicines:

S Sulfonylureas
An ACE inhibitors & angiotensin neprilysin inhibitors
D Diuretics & Direct Renin Inhibitors
M Metformin & MRAs
An ARBs
N NSAIDs
S SGLT2 inhibitors

Once the patient is feeling better and able to eat and drink for 24–48 hours, these medications should be restarted.

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