

**Pathway for the use of SGLT2 inhibitors in Heart Failure**

Consider dapagliflozin or empagliflozin (specialist to specify) in patients with chronic heart failure irrespective of ejection fraction if symptomatic

Patients with HFmrEF (LVEF 41-49%) and HFpEF (LVEF  $\geq$ 50%) consider dapagliflozin or empagliflozin. Patients with HFrEF (LVEF  $\leq$ 40%) consider dapagliflozin or empagliflozin if symptomatic despite optimal ACEi or ARB or sacubitril/valsartan **and** beta blocker **and** mineralocorticoid receptor antagonist (MRAs) if tolerated. Heart Failure specialists may recommend initiating in a different order according to patient tolerability – See Stage 3 of the regional [Heart Failure Pathway](#)

Consider cautions and contra-indications:

**Contraindications**

- Allergy to SGLT2 inhibitors
- Type 1 diabetes
- Pregnancy and breastfeeding

**Should not use if:**

- Previous diabetic ketoacidosis (DKA)
- High risk of DKA e.g. previous pancreatitis, starvation – see SPC for full details: [dapagliflozin](#) / [empagliflozin](#).
- Dapagliflozin is licensed for eGFR  $\geq$ 15ml/ min but limited experience in eGFR  $<$ 25 ml/min
- Empagliflozin is licensed for eGFR  $\geq$ 20ml/ min

**Cautions**

- Previous urosepsis / recurrent genitourinary tracts infections
- Recurrent hypoglycaemia
- Peripheral vascular disease especially if previous amputation or foot ulcer – **discuss with local specialist**
- Raised haematocrit
- Severe liver impairment
- Hypotension (SBP  $<$ 95 mmHg)
- Elderly patients may be at increased risk of volume depletion.

**Provide patient information and counselling – responsibility of specialist clinician**

Provide manufacturer's patient information leaflet specific for heart failure indication: [dapagliflozin \(patients without type 2 diabetes\)](#) / [dapagliflozin \(patients with type 2 diabetes\)](#) / [empagliflozin](#). This may have been supplied by the heart failure team, but it is the responsibility of the prescribing clinician to ensure the patient has received and understands this.

**Sick day rules for dapagliflozin / empagliflozin:** Stop during acute illness especially if too unwell to eat and drink. Stop 3 days prior to major surgery. Restart when fully recovered and eating and drinking normally.

**Ketoacidosis:** For patients with or without type 2 diabetes mellitus (T2DM), provide education on signs and symptoms of ketoacidosis. Importance of seeking medical help if any signs of ketoacidosis or feeling unwell and the need to be tested for blood ketones (by healthcare staff) even if blood glucose is near normal. Ketoacidosis is less likely to occur in patients without diabetes.

**Important side effects (not prescriptive – see individual SPCs for [dapagliflozin](#) / [empagliflozin](#) for full details including frequency):**

- Hypoglycaemia when used in combination with insulin or sulfonylureas
- Increased urination and dehydration
- Genital and urinary tract infections
- Allergic reactions including rash / urticaria / angioedema
- Transient rise in creatinine during initial treatment (up to 20%).
- Risk of ketoacidosis, particularly in patient with diabetes - discontinue immediately and DO NOT restart
- Fournier's gangrene (discontinue and initiate treatment promptly)

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Check baseline bloods: U&Es including eGFR, FBC, LFTs and HbA1c - **responsibility of specialist clinician**

**Assess fluid status and addition of SGLT-2 Inhibitors to diuretic therapy**

Volume status	Changes to existing therapy
Euvolaemic patients	Review loop diuretic dose
Volume overload	Add SGLT2 inhibitor to existing diuretics and review diuretic plan
Hypovolaemia	Correct volume depletion before adding SGLT2 inhibitor
Thiazide diuretic for hypertension	Discontinue thiazide and start SGLT2i. GP to review BP in 4-6 weeks. Preference should be to up-titrate ACEi/ARB/ARNI, beta blocker and MRA.
Thiazide in combination with a loop diuretic for fluid overload	Discuss with cardiologist

**If in doubt, discuss with patient's heart failure specialist**

Type 2 diabetes

No diabetes

**Addition of SGLT-2 inhibitors to other glucose lowering medication**

Criteria	Advice	Diabetes Review
HbA1c <41 (tight control) <i>or</i> > 2 agents	Assess risk of hypoglycaemia	Review diabetes regimen
on sulphonylureas* or insulin	High risk of hypoglycaemia	Review sulphonylurea / insulin dose before adding SGLT2 inhibitor*
HbA1c 41-58 <i>and</i> on ≤ 2 antidiabetic agents (except sulphonylureas or insulin)	Add SGLT2 inhibitor to existing therapy	No additional requirements
HbA1c 58 – 78	Add SGLT2 inhibitor to existing therapy	Review diabetes regimen due to poor control
HbA1c >78	Discuss with diabetes specialist	Review diabetes regimen as may require insulin

**NOTE:** If eGFR < 45ml/min there may be little effect on diabetic control therefore, dose reductions may not be necessary

**If in doubt, discuss with patient's diabetes specialist**  
\*Sulphonylureas e.g. gliclazide, glipizide, tolbutamide

- If clinically appropriate start **dapagliflozin 10mg daily or empagliflozin 10mg daily (specialist to specify)**
- For use in severe liver impairment:
  - Start dapagliflozin at 5mg daily, increasing to 10mg daily if tolerated – **discuss with heart failure specialist**
  - Do **not** use empagliflozin in severe liver impairment
- Document indication for SGLT2 inhibitor clearly to prevent confusion when monitoring glycaemic targets

**Monitoring**

- Heart failure specialist to assess need for ongoing specialist input for heart failure medicines optimisation.
- When transferring responsibility to Primary care consider timeline for availability of clinic letter and bloods. Consider if second review is warranted by the initiating clinician.
- An initial transient rise in creatinine (up to 20%) is expected which should not lead to premature discontinuation. Monitoring to detect clinically significant changes beyond this should be performed as below.
- Renal function and U&Es should be checked 4 to 6 weeks after initiation and then according to heart failure guidelines accounting for other medicines the patient is taking, including ACE inhibitors or MRA. See [NICE NG106: Chronic Heart Failure in Adults](#).