SGLT2 inhibitors use in T2DM, Heart Failure and CKD

Norfolk and Suffolk Integrated Care Board

Dapagliflozin is the most commonly prescribed SGLT2i in England, followed by empagliflozin. These two agents are considered by NICE to have similar clinical effectiveness. NICE guidance recommends that the lowest acquisition cost product should be used where more than one is suitable. In the UK, generic dapagliflozin should be the SGLT2i of choice for all new initiations and where clinically appropriate for existing patients taking a different SGLT2i. **See NICE TA and guidance for use of SGLT2i in T2DM, HF and CKD**

Use of SGLT2i decreases risk of mortality, hospitalisation and kidney failure.	
Licensed doses and indications:	
Dapagliflozin: **T2DM, CKD & HF with or without diabetes,** 10mg OD *Do not initiate in eGFR < 15* *There is limited experience in clinical studies in patients with hepatic impairment. Dapagliflozin exposure is increased in patients with severe hepatic impairment Initiate with 5mg in severe hepatic impairment. If well tolerated, the dose may be increased to 10 mg*	**Empagliflozin:** **T2DM** start with 10mg, increased to 25mg OD if needed for tighter glycaemic control and eGFR ≥ 60. **HF& CKD with or without diabetes** 10mg OD. *Do not initiate in eGFR < 20* *Do not initiate in severe hepatic impairment*
Canagliflozin: **T2DM:** Initiate with 100mg OD, increase to 300mg OD if needed for tighter glycaemic control and eGFR ≥ 60. For eGFR 30-60 use 100mg. If eGFR < 30, continue with 100mg for patients already taking it. *Do not initiate in patients with eGFR< 30 or severe hepatic impairment.*	**Ertugliflozin:** **T2DM only**. Start with 5mg OD increasing to 15mg OD if needed for tighter glycaemic control and eGFR ≥ 45 *Do not initiate in eGFR< 45 and discontinued when eGFR is persistently < 30* *Do not initiate in severe hepatic impairment*
CAUTION: Do not use SGLT2i in patients with T1DM due to risk of DKA, regardless of HF or CKD	

The glycaemic lowering efficacy of SGLT2s are reduced in patients with moderate renal impairment and likely to be absent in patients with severe renal impairment, if further glycaemic control is needed, the addition of other anti- hyperglycaemic agents should be considered.

See below for patient suitable for initiation and switching to generic dapagliflozin. Clinical appropriateness should always be considered when initiating and switching products.

Patient cohorts	**Generic dapagliflozin eligibility**
T2DM (may have other co-morbidities including CKD and HF)	Yes
HF	Yes
CKD without T2DM	No*

**Patent restrictions prevent the use of generic for this indication*.

SGLT2 inhibitors are not suitable for people who:

- are receiving any dialysis
- have Type 1 diabetes
- are pregnant or breastfeeding
- have frequent urine infections

Guide to switching

Medication and dose	**eGFR mL/min/1.73 m²**	**Generic dapagliflozin dose**	**Severe Hepatic Impairment present**
Ertugliflozin (Steglatro®) 5mg & 15mg OD	≥ 15	10mg	*Initiate with 5mg in severe hepatic impairment. If well tolerated, the dose may be increased to 10 mg*
Canagliflozin (Invokana®) 100mg & 300mg OD			
Empagliflozin (Jardiance®)10mg OD			
Empagliflozin (Jardiance®) 25mg OD	Do not switch		

Do not switch patients with a previous intolerance/ allergy to dapagliflozin or patients who have previously tried and not gained benefit with dapagliflozin.

Counsel patients about the risk/signs of DKA. This risk is increased during periods of intercurrent illness (see advice on sick day guidelines at CKS). Patients should speak to their HCP if acutely unwell, and before starting any ketogenic or low carb diet. Information on contraindications, cautions and counselling can be found SPCs

MHRA/Safety alerts - Fournier's gangrene (necrotising fasciitis of the genitalia or perineum) & risk of diabetic ketoacidosis