Patient specific characteristics to consider when choosing an SLGT-2 inhibitor for a patient with type 2 diabetes and cardiovascular disease

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There are no clinical trials directly comparing SGLT-2 inhibitors and the below recommendations are based on indirect comparisons†. The choice of agent and dose should always be specific to each individual patient based on their medical history and circumstances. The guidance below can be considered in consultation with the patient/guardian/carer, and should be informed by the summaries of product characteristics (SPCs) for the relevant drug, to determine which drug options may be most appropriate for individual patients presenting with the characteristics listed. For full prescribing information consult SPC[1-4].

No specific patient characteristics or preferences	***Any SGLT-2 inhibitor can be considered as an option***[5-8]. *Consider an agent that provides HbA_{1c} reduction and is protective of CV-renal outcomes.*
Heart failure	*All four SGLT-2 inhibitors have demonstrated positive efficacy in reducing heart failure reduced hospitalisation.* ***Dapagliflozin*** *and* ***empagliflozin*** *are the SGLT-2 inhibitors licensed in adults for the treatment of symptomatic chronic heart failure with reduced ejection fraction*[2].
High risk patients with established atherosclerotic cardiovascular disease (ASCVD)‡	Consider an agent that demonstrated reduced rates of death from cardiovascular causes. *In EMPA-REG OUTCOME,* ***empagliflozin*** *demonstrated a statistically significant lower rate of death from cardiovascular causes in a patient population, nearly entirely comprised of people with established cardiovascular disease*[§]*, compared to placebo*[5]*. Ertugliflozin▼ was not found to be associated with a lower rate of the same outcome in a similar patient population in VERTIS CV*[8]*. The patient populations of DECLARE-TIMI 58 (dapagliflozin) and CANVAS (canagliflozin) did not include a similarly high proportion of patients with cardiovascular disease*[6,7].
Risk of lower limb amputation and/or bone fracture	Consider an agent associated with lowest risk of amputation and/or bone fracture. *Both DECLARE-TIMI 58 and VERTIS CV respectively found no significant difference for amputation between dapagliflozin and placebo and between ertugliflozin▼ and placebo*[7,8]. ***Empagliflozin***, ***dapagliflozin*** *and* ***ertugliflozin▼*** *have not been found to be associated with increased risk of fractures*[5,7,8].
Moderate renal impairment (eGFR > 30 < 60 ml/min/1.73m²)**	Consider an agent, which slows the progression of chronic kidney disease. ***Canagliflozin*** *and* ***dapagliflozin*** *are the SGLT-2 inhibitors approved for the treatment of CKD.*

Green text : highlights those options that may be most appropriate for the relevant patient characteristic (when considered in isolation).

† Due to an update in canagliflozin and dapagliflozin licensing for the treatment of CKD in patients with T2DM, data from both CREDENCE and DAPA-CKD has been used to outline one of the patient specific characteristics.
‡ A history of an acute coronary syndrome or myocardial infarction (MI), stable or unstable angina, coronary heart disease with or without revascularisation, other arterial revascularisation, stroke, or peripheral artery disease assumed to be atherosclerotic in origin.
§ Approximately 10% of these patient populations had cardiac failure at baseline.
** The glycaemic efficacy of SGLT-2 inhibitors is reduced and likely absent in patients with moderate and severe renal impairment respectively. If further glycaemic control is needed, additional glucose-lowering treatment should be considered.

References are provided overleaf.

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References

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