SGLT2i Prescribing Tool

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https://adisjournals.figshare.com/articles/SGLT2_Inhibitors_in_Type_2_Diabetes_Management_Key_Evidence_and_Implications_for_Clinical_Practice/6621683

Adapted from: Wilding J, Fernando K, et al. SGLT2 Inhibitors in Type 2 Diabetes Management: Key Evidence and Implications for Clinical Practice. Diabetes Ther. 2018 Jul 23. https://rd.springer.com/article/10.1007/s13300-018-0471-8 [Accessed December 2020]

The SGLT2i Prescribing Tool has been independently prepared by the Improving Diabetes Steering Committee. Napp Pharmaceuticals has fully funded the creation of this non-promotional document and has reviewed and certified it for medical accuracy and compliance with the ABPI Code of Practice.

NAPP
DIABETES

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SGLT2i Prescribing Tool

The Prescribing Tool is a quick reference guide to support clinicians with treatment decisions concerning SGLT2i therapies. The Tool aims to provide clarity regarding common areas of confusion in clinical practice, such as early and late use of SGLT2i treatments within the T2DM pathway, the risk of diabetic acidosis and lower limb amputations or bone fractures. The traffic light system highlights the types of people or situations you may encounter and appropriate approaches to prescribing in these cases:

Green: Evidence supports SGLT2i prescribing in these situations

Amber: Prescribe SGLT2i with caution

Red: Do not prescribe SGLT2i

An evidence level has been assigned to each risk category, based on randomised controlled trial (RCT) and observational data, as well as NICE/SIGN guidelines and the licensed indication for each therapy within the SGLT2i class of medicines.

The level of evidence has been scored according to the ADA Evidence-Grading System shown next to the risk category chart.[1]

	CATEGORY	CLINICAL SITUATION	POTENTIAL IMPLICATIONS[2-14]	EVIDENCE LEVEL[1]
EVIDENCE SUPPORTS SGLT2I PRESCRIBING	Evidence supports SGLT2i prescribing	First-line (metformin intolerant)		A + B + E
		Second-line to metformin		A + B + E
		Third-line (add-on to second-line therapies)		A + B + E
		Combination with basal insulin or multiple daily injections of insulin[¶]		A + B + E
		Established CVD		A + B + E
		History of heart failure		A + B + E
		No history of lower limb amputation		A
		No history of PAD		A
		ACR >3 mg/mmol		A
		GLP-1 receptor agonist combination		A + additional evidence required to support decision
		eGFR ≥60 mL/min/1.73m2*[‡]		A + B + E
		Overweight or obese		A + B + E
		Vulnerable to the effects of hypoglycaemia		A
		Prior stroke		A + E
PRESCRIBE SGLT2I WITH CAUTION	Prescribe SGLT2i with caution	History of PAD	Lower limb amputation risk	A + C
		Osteoporosis	Lower limb amputation/bone fracture risk	A + B + E
		Frail/elderly	Lower limb amputation/bone fracture/falls risk	A + B
		History of foot ulceration	Lower limb amputation risk	A
		History of fractures	Bone fracture risk	A + C
		Stage 3a CKD (eGFR ≥45 ml/min/1.73m²) and Stage 3b CKD (eGFR ≥30 ml/min/1.73m²) with ACR >30 mg/mmol**[¥]	Licensed treatments only	A + E
		Receiving loop diuretics**		A + E
		Ketogenic diet	DKA risk	E
		High HbA1c levels (>86 mmol/mol or 10%)[◆]	DKA risk, likely to need insulin	A + B + E
		Systemic steroid therapy	DKA risk/outside of licensed indication	E
		Cognitive impairment		E
		BMI <25	DKA risk	E
		Previous lower limb amputation	Lower limb amputation risk	A + C
		Existing diabetic foot ulcers	Lower limb amputation risk	A
		Type 1 diabetes (diagnosed or suspected) (dapagliflozin 5mg only)[●]	DKA risk	A + E
		Recurrent UTIs	UTI risk	E
		Male with benign prostatic hypertrophy	UTI risk	E
DO NOT PRESCRIBE SGLT2I	Do not prescribe SGLT2i	DKA (or previous episode of DKA)	DKA Risk	E + conflicting evidence
		Eating disorders	DKA Risk	E
		Rapid progression to insulin (within 1 year)	DKA Risk	E
		Latent autoimmune diabetes	DKA Risk	A + E
		Excessive alcohol intake	DKA risk/outside of licensed indication	A + E
		Diabetes due to pancreatic disease	DKA risk/outside of licensed indication	A + E
		Genetic diabetes	Outside of licensed indication	
		Acute illness[†]	Outside of licensed indication	
		Pregnancy (or suspected pregnancy), planning pregnancy or breastfeeding	Outside of licensed indication	
		Recent major surgery	Outside of licensed indication	
		Past history of necrotising fasciitis of the perineum (Fournier's gangrene)	Fournier's gangrene risk	E

¶ SGLT2i therapies should be prescribed with caution in people requiring a rapid reduction in insulin dose, due to insulinopenia, which may increase DKA risk.[2-5] *Decisions should be based upon recent eGFR measurement, rather than historical tests. [‡]Empagliflozin, dapagliflozin and ertugliflozin therapies may be initiated only in people with eGFR ≥60 mL/min/1.73m² and may continue to be prescribed in those requiring tighter glycaemic control until eGFR reaches 45 mL/min/1.73m².[3-5] [¥]People with T2DM patients with albuminuria (urinary albumin: creatinine ratio >30 mg/mmol) and an eGFR ≥30 mL/min/1.73m² can now be initiated on canagliflozin 100 mg and also maintained on treatment until dialysis or renal transplantation.[2] **The CREDENCE study and some sub-populations enrolled in published SGLT2i CV outcome trials included people receiving loop diuretics.[9-12] However, canagliflozin is not currently licensed for use alongside loop diuretics and other SGLT2is recommend ongoing monitoring for signs of volume depletion.[2-5] ◆ Monitor HbA1c levels regularly and cease SGLT2is if elevated levels continue. ●Dapagliflozin (5 mg) is the only SGLT2i licensed for in Type 1 diabetes (adjunct to insulin; initiated and supervised by a specialist). [†]SGLT2i treatment should be suspended in individuals with acute illness until fully recovered.[2-5,13,14] Urinary symptoms, due to glucosuria, can be an issue for people prescribed SGLT2i medicines.[2-5] However, UTIs are relatively rare and these medicines may be prescribed for people with a history of UTIs.

ADA EVIDENCE-GRADING SYSTEM FOR "STANDARDS OF MEDICAL CARE IN DIABETES"[1]

Grade Level	Description
A	Clear evidence from well-conducted, generalisable RCTs that are adequately powered, including: • Evidence from a well-conducted multicentre trial or meta-analysis that incorporated quality ratings in the analysis • Compelling non-experimental evidence
B	Supportive evidence from well-conducted cohort studies Supportive evidence from a well-conducted case-control study
C	Supportive evidence from poorly controlled or uncontrolled studies Conflicting evidence with the weight of evidence supporting the recommendation
E	Expert consensus or clinical experience

NB. Where data are conflicting or lacking, advice has been provided that is based upon expert opinion and experience in T2DM management.

Abbreviations. T2DM, Type 2 diabetes mellitus; SGLT2i, sodium-glucose co-transporter-2 inhibitor; ADA, American Diabetes Association; RCT, randomised controlled trial; BMI, body mass index; PAD, peripheral arterial disease; CV, cardiovascular; CVD, cardiovascular disease; eGFR, estimated glomerular filtration rate; UTIs, urinary tract infections; DKA, diabetic ketoacidosis; CKD, chronic kidney disease.

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