



## SGLT2 inhibitors in patients with reduced kidney function (eGFR < 60 mL/min/1.73m<sup>2</sup>)

The BC PAD Service is now offering its 20<sup>th</sup> topic! [Type 2 Diabetes Focused Update: SGLT2 Inhibitors and GLP1 Agonists](#) addresses:

- Changes to available evidence and clinical practice guidelines that inform medication choices, beyond HbA1c lowering.
- Clinical considerations that support treatment decisions including dosing, dosage forms, adverse events, cost and coverage.

The glucose lowering effect of SGLT2 inhibitors decreases with declining kidney function. However, trials of these medications have been conducted in patients with type 2 diabetes, chronic kidney disease and heart failure who have reduced kidney function (eGFRs as low as 20 to 30 mL/min/1.73m<sup>2</sup>).

The table below is informed by current Health Canada prescribing information and recent chronic kidney disease trials, which have demonstrated improvements in kidney disease outcomes independent of glucose-lowering effects.<sup>1-5</sup>

SGLT2 inhibitors and kidney function		
canagliflozin (Invokana®)	dapagliflozin (Forxiga®)	empagliflozin (Jardiance®)
Can be initiated if eGFR ≥ 30 mL/min/1.73m <sup>2</sup>	Can be initiated if eGFR ≥ 25 mL/min/1.73m <sup>2</sup>	Can be initiated if eGFR ≥ 20 mL/min/1.73m <sup>2</sup>
Dose used in diabetic nephropathy trial: <b>100 mg</b>	Dose used in heart failure and chronic kidney disease trials: <b>10 mg</b>	Dose used in heart failure and chronic kidney disease trials: <b>10 mg</b>
<ul style="list-style-type: none"> <li>▪ In the canagliflozin diabetic nephropathy trial (CREDESCENCE 2019), canagliflozin could be continued if eGFR progressed below 30 until the initiation of dialysis or kidney transplantation.</li> <li>▪ The 300 mg dose of canagliflozin is only indicated if eGFR ≥ 60.</li> <li>▪ Currently, Health Canada lists dialysis as a contraindication to canagliflozin use.</li> <li>▪ Consultation with nephrology can help clarify the SGLT2 inhibitor plan.</li> </ul>	<ul style="list-style-type: none"> <li>▪ In the dapagliflozin chronic kidney disease trial (DAPA-CKD 2020), dapagliflozin could be continued if eGFR progressed below 25 and could be continued if dialysis was needed.</li> <li>▪ Currently, Health Canada lists dialysis as a contraindication to dapagliflozin use.</li> <li>▪ Consultation with nephrology can help clarify the SGLT2 inhibitor plan.</li> </ul>	<ul style="list-style-type: none"> <li>▪ In the empagliflozin chronic kidney disease trial (EMPA-KIDNEY 2022), empagliflozin could be continued if eGFR progressed below 20 unless kidney transplantation was needed but could be continued if dialysis was needed.</li> <li>▪ Currently, Health Canada lists eGFR &lt; 20, end stage kidney disease and dialysis as contraindications to empagliflozin use.</li> <li>▪ Consultation with nephrology can help clarify the SGLT2 inhibitor plan.</li> </ul>
RACE Rapid Access to Consultative Expertise <a href="http://raceconnect.ca">raceconnect.ca</a> or 1-877-696-2131		
eGFR: estimated glomerular filtration rate mL/min/1.73m <sup>2</sup>		

<sup>1</sup>[Health Canada Drug Product Database](#) accessed November 11, 2022; <sup>2</sup>[CREDESCENCE 2019 canagliflozin diabetic nephropathy trial \(PMID: 30990260\)](#); <sup>3</sup>[DAPA-CKD dapagliflozin chronic kidney disease trial \(PMID: 32970396\)](#); <sup>4</sup>[EMPA-KIDNEY 2022 empagliflozin chronic kidney disease trial \(PMID: 36331190\)](#); <sup>5</sup>[SGLT2 inhibitor consortium 2022 meta analysis \(PMID: 36351458\)](#)