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| <b>Title</b> | Sodium-glucose cotransporter type 2 inhibitors: managing the small but critical risk of diabetic ketoacidosis |
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## **Sodium–glucose cotransporter type 2 inhibitors: managing the small but critical risk of diabetic ketoacidosis**

**IN REPLY:** We thank Meyer and colleagues for their interest in our article. The risk of sodium–glucose cotransporter type 2 (SGLT2) inhibitor-associated diabetic ketoacidosis in acutely unwell patients and people using ketogenic diets is already outlined in our article and does not require further comment.<sup>1</sup>

We agree that the missed diagnosis of type 1 diabetes is an area of concern, but not just for patients taking SGLT2 inhibitors. In our 2019 study, 22% of patients with diabetic ketoacidosis who were thought to have type 2 diabetes were found to have type 1 diabetes, both in SGLT2 inhibitor users and non-users.<sup>2</sup> This health system factor clearly involves more than just the SGLT2 inhibitor-treated population.

While it is true that diabetic ketoacidosis has been more frequently reported with major surgery, including where ileus may contribute, clinicians need to be aware that it may also occur with other surgery, such as infected finger washout.<sup>2</sup> We agree that the advice regarding a glycated haemoglobin cut-off level of 75 mmol/mol (9%) for risk stratification is arbitrary; however, it is the value currently recommended by the Australian Diabetes Society.<sup>3</sup> This is a rapidly evolving area and a more nuanced approach will no doubt be developed over time.

It is unclear whether the anecdotal case described in Meyer et al's letter had ceased SGLT2 inhibitors for two full days before colonoscopy or only on the day of the procedure. We advise deferring non-urgent procedures in patients who have not withheld SGLT2 inhibitors for two full days before a procedure.

As stated in our article, ketonaemia levels that should raise concern in asymptomatic patients undergoing minor procedures are poorly defined. Indeed, we are currently conducting a multisite study to establish normal reference intervals for serum ketone concentrations in patients with and without diabetes undergoing colonoscopy. Universal measurement of serum ketone concentrations in all patients with type 2 diabetes must await further evidence from such studies regarding the expected normal range of serum ketone concentrations in the context of prolonged fasting and potential dehydration associated with colonoscopy.

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## References

- 1 Hamblin PS, Wong R, Bach LA. Sodium–glucose cotransporter type 2 inhibitors: managing the small but critical risk of diabetic ketoacidosis. *Med J Aust* 2020; 212: 294-296. <https://www.mja.com.au/journal/2020/212/7/sodium-glucose-cotransporter-type-2-inhibitors-managing-small-critical-risk>
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