**Automated insulin delivery use among hospitalised patients: An audit relating to clinical practice and outcomes at a Melbourne Tertiary Hospital**

**Aims**

Automated insulin delivery (AID) has become standard of care for type 1 diabetes (T1D). Its safety and efficacy in hospital remains unclear with limited supporting data. Hospitalisation presents unique challenges for glycaemic management. We aimed to evaluate the safety and clinical outcomes of AID continuation during hospitalisation.

**Methods**

This single-centre, retrospective audit included patients with T1D admitted to St Vincent’s Hospital, Melbourne from January 2022 to March 2025 using continuous subcutaneous insulin infusion (CSII). Primary outcome was AID continuation rate. Secondary outcomes included glycaemic and clinical outcomes, reasons for admission and device discontinuation, and trends in AID use.

**Results**

Preliminary results are available at the time of abstract submission. Thirteen episodes of care have been identified to date. Mean age was 46.7 years, 8/13 (61.5%) were female, mean SEIFA centile was 62.8, diabetes duration 18.6 years, baseline HbA1c 9.0%. At presentation 7/13 (53.8%) were using AID.

CSII was discontinued in 9/13 (69.2%). The most common reason for discontinuation was diabetic ketoacidosis (DKA) in 6/9 cases. Among non-DKA admissions (n=7), 3/7 (42.9%) had CSII discontinuation. Of 4 who continued CSII, 3/4 (75%) were AID users, and of these 2/3 (66.7%) continuing in AID mode. Device failure due to line failure was recorded in 1/13 (7.7%).

Mean length of stay was 6.5 days for AID continued on admission, 2.0 days for non-AID pump use during admission and 5.1 days for pump discontinued at admission. No other adverse events were identified. AID use amongst CSII users increased from 44.4% in 2022 to 100% in both 2023 and 2024.

**Conclusions**

Preliminary data highlights variable inpatient management of AID systems. Pump discontinuation is common, including in non-DKA admissions. Ongoing data collection will further inform clinical practice relating to patterns of use, safety and clinical outcomes to enable successful transition of AID systems into the inpatient setting.