

# MIDER

## Audit about safety and outcomes of Tandem T slim insulin pumps in pregnant women compared to other insulin pumps

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Authors	Jesson, Anna-Marie;Al-Badawi, Saifaldeen;Saraf, Sanjay;Kalaiah, Yogesh
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# Audit about safety and outcomes of Tandem T slim insulin pumps in pregnant women compared to other insulin pumps

## Good Hope Hospital Adult Insulin Pump Team, University Hospitals Birmingham, Birmingham, UK

### Aims of Audit:

To evaluate the safety and efficacy of Tandem insulin pumps compared to other pumps in pregnant women, focusing on glycaemic control and pregnancy outcomes.

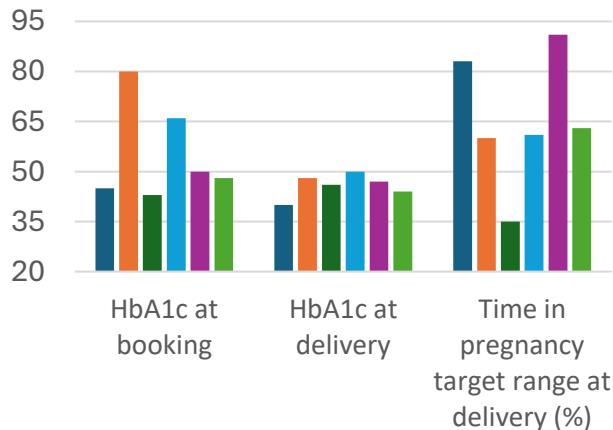
### Objectives:

- Time in Range (TIR) and mean glucose levels among users of Tandem insulin pumps.
- Compare HbA1c levels against different insulin pump users.
- Evaluate the incidence of severe hypoglycaemia.
- Monitor weight changes during pregnancy
- Adverse pregnancy outcomes (e.g., live birth, complications).

### Method: Retrospective cohort study

**Population:** Pregnant women using Tandem T slim insulin pump + Dexcom G6 during 2022/24  
**Duration:** Data collection over the course of the pregnancy, and including: Time in pregnancy range (TIR) and time below range; HbA1c; weight; incidence and severity of hypoglycaemic events; adverse pregnancy outcomes (e.g., live birth, macrosomia, neonatal hypoglycaemia, complications).

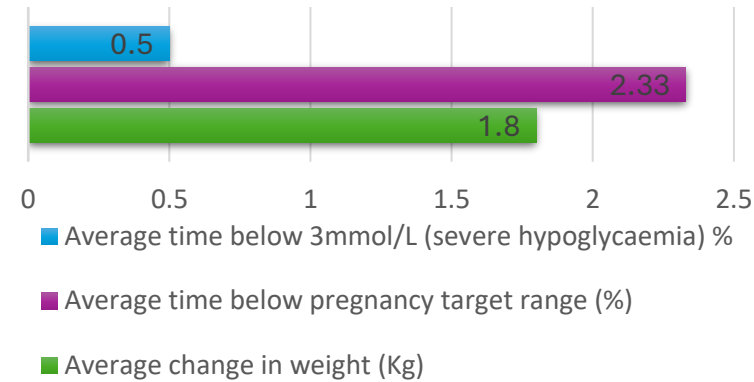
### Results: HbA1c and Time in pregnancy target range:



**Time in Pregnancy range (TIPR):**  
 80% of patients had 60% and above TIPR, whilst 20% had only 35% time in range which was associated with foetal macrosomia. In this study Tandem T slim HCL users have a higher percentage of patients achieving good time in range compared to other HCL pumps. **HbA1c at delivery was less than 50mmol/mol for all patients – regardless of starting HbA1c**

### Results: Hypoglycaemia

Hypoglycaemia and weight change



### Hypoglycaemia:

Rates of hypoglycaemia were low, with only 2.33% time below 4mmol/L, well within the 4% guidelines. In comparison Tandem users in this show a lower incidence of severe hypoglycaemia, suggesting improved safety profiles compared to other pumps.

### Weight Changes:

Weight gain and weight losses were found, with an average gain of 1.8Kg. This is significantly less than the average 10Kg in a UK pregnancy, and 9Kg less than in the AiDAPT study.

### Results: Adverse pregnancy outcomes:

Adverse outcomes such as foetal macrosomia, hypoglycaemia, and pre-eclampsia were recorded. Tandem pump users experienced a range of outcomes, but no clear pattern suggesting a higher incidence of adverse events compared to other pumps was observed. The types of adverse outcomes varied, with instances like "Hypoglycaemia" and "Foetal macrosomia" being noted across both Tandem and other pump users.

### Conclusion:

Tandem t slim + Dexcom G6 hybrid closed loop insulin pump appear to provide better safety and clinical outcomes for pregnant women compared to other insulin pumps, emphasizing the importance of personalized diabetes management during pregnancy. Rates of hypoglycaemia, HbA1c, and time in pregnancy range are comparable to the AiDAPT study. Weight change was superior to the AiDAPT study. Further studies with more detailed data from a larger sample size, would help to clarify any potential benefits of Tandem t slim insulin pump over other types for managing Type 1 diabetes in pregnancy